



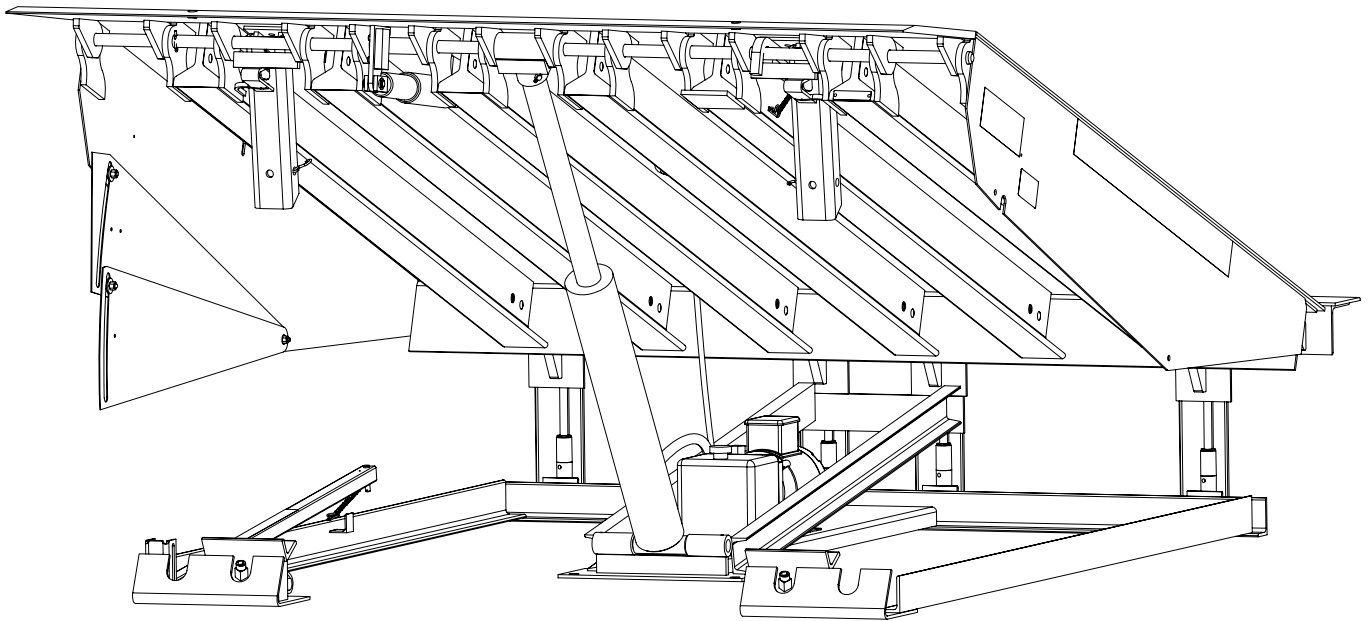
KELLEY®

HydraulicPlus™

Model “HP”



SAFE FRAME®



This User's Manual applies to dock levelers manufactured beginning October 2012 with the serial number 61059674 and higher.

▲ WARNING

Do not install, operate or service this product unless you have read and understand the Safety Practices, Warnings, Installation and Operating Instructions contained in this User's Manual. Failure to do so could result in death or serious injury.

User's Manual

Installation, Operations, Maintenance and Parts

Part No. 6004750K

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INTRODUCTION

Welcome and thank you for choosing this dock leveler from KELLEY®. This dock leveler may be equipped with the optional ENERGY GUARD® dock leveler sealing system.

This User's Manual contains information that you need to safely install, operate and maintain the dock leveler. It also contains a complete parts list and information about ordering replacement parts. Please keep and read this User's Manual before using your new dock leveler.

SAFETY SIGNAL WORDS

You may find safety signal words such as DANGER, WARNING, or CAUTION throughout this Owner's Manual. Their use is explained below:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

▲DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

▲WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

▲CAUTION

Indicates a potentially hazardous situation which, if not avoided may result in minor or moderate injury.

NOTICE

Notice is used to address practices not related to personal injury.

SAFETY PRACTICES

⚠ WARNING

Read these safety practices before installing, operating or servicing the dock leveler. Failure to follow the safety practices could result in death or serious injury.

If you do not understand the instructions, ask your supervisor to explain them to you or call local Kelley distributor.

OPERATION

Use restricted to trained operators.

Follow procedures on placard posted near dock leveler.

Do not use this unit to service vehicles outside its intended working range which is 12 inches above and 12 inches below dock. (18" above and 12" below dock on 10' models)

Do not operate the dock leveler with equipment, material or people on the ramp or lip.

Do not operate the dock leveler when anyone is in front of it unless they are securing the maintenance strut.

Stay clear of the dock leveler when it is moving.

Keep hands clear of hinges at all times. Do not use hands to position dock leveler ramp or lip in vehicle or to store dock leveler.

Do not use the dock leveler if it looks broken or does not seem to work right. Tell your supervisor it needs repair right away.

Do not stand in the driveway between the dock leveler and a backing vehicle.

Chock vehicle wheels or lock vehicle in place with a vehicle restraining device and set brakes before loading or unloading.

Stay clear of leveler unless lip supported by the vehicle bed or the ramp is supported by both front dock level supports; unsupported leveler can lower unexpectedly.

Store dock leveler at dock level after below dock end loading.

Move all equipment, material or people off dock leveler and store dock leveler at dock level before allowing the vehicle to pull out.

Do not use a fork truck or other material handling equipment to lower the ramp.

Before chocking wheels or engaging vehicle restraint, dump air from air ride suspensions and set parking brakes.

Ensure lip avoids contact with vehicle sides and cargo. If lip does not lower to vehicle bed, reposition vehicle.

INSTALLATION, MAINTENANCE AND SERVICE

Place barricades on the dock floor around the dock leveler pit and in the driveway in front of the pit while installing, maintaining or repairing the dock leveler.

Do not operate the dock leveler when anyone is in front of it unless they are securing the maintenance strut.

PUT AND PIN MAINTENANCE STRUT AND LIP LOCK IN PLACE before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler.

Disconnect the power and properly tag or lock off before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler.

All electrical troubleshooting or repair must be done by a qualified technician and must meet applicable codes.

Disconnect the power and properly tag or lock off before doing any electrical work.

If it is necessary to make troubleshooting checks inside the control box with the power on, **USE EXTREME CAUTION!** Do not place fingers or uninsulated tools inside the control box. Touching wires or other parts inside the control box could result in electrical shock, death or serious injury.

OWNER'S RESPONSIBILITIES

The owner's responsibilities include the following:

The owner should recognize the inherent danger of the interface between dock and transport vehicle. The owner should, therefore, train and instruct operators in the safe use of dock leveling devices.

When a transport vehicle is positioned as closely as practicable to a dock leveling device, there shall be at least 4" of overlap between the front edge of the lip and the edge of the floor or sill of the transport vehicle.

Nameplates, cautions, instructions and posted warnings shall not be obscured from the view of operating or maintenance personnel for whom such warnings are intended.

Manufacturer's recommended periodic maintenance and inspection procedures in effect at date of shipment shall be followed, and written records of the performance of these procedures should be kept.

Dock leveling devices that are structurally damaged or have experienced a sudden loss of support while under load, such as might occur when a transport vehicle is pulled out from under the dock leveling device, shall be removed from service, inspected by the manufacturer's authorized representative, and repaired as needed before being placed back in service.

The owner shall see that all nameplates, caution and instruction markings or labels are in place and legible and that the appropriate operating and maintenance manuals are provided to users.

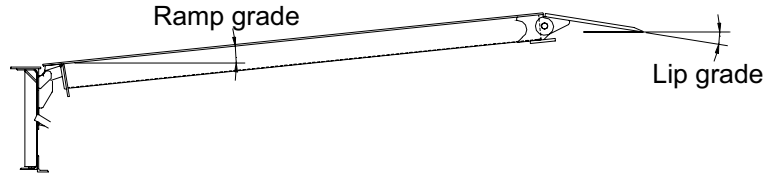
Modifications or alterations of dock leveling devices shall be made only with written permission of the original manufacturer.

When industrial vehicles are driven on and off transport vehicles during the loading and unloading operation, the brakes on the transport vehicle shall be applied and wheel chocks or positive restraints that provide the equivalent protection of wheel chocks engaged.

The dock leveler should never be used outside its vertical working range or vertical lifting range or outside the manufacturer's labeled rated capacity. It must also be compatible with the loading equipment and other conditions relating to the dock.

RAMP AND LIP GRADES

Fig. 1



Vehicle bed position from dock, (in.)		RAMP and LIP grades, % for each Dock Leveler length					
		6' Leveler		8' Leveler		10' Leveler	
		RAMP	LIP	RAMP	LIP	RAMP	LIP
Above dock	18.0	--	--	--	--	16.7	8.8
	16.0	--	--	--	--	15.0	7.1
	14.0	--	--	--	--	13.2	5.4
	12.0	19.4	11.6	14.5	6.6	11.5	3.7
	10.0	16.5	8.7	12.3	4.5	9.8	2.0
	8.0	13.7	5.8	10.2	2.4	8.2	0.3
	6.0	10.8	3.0	8.1	0.2	6.5	-1.4
	4.0	8.0	0.2	6.0	-1.8	4.8	-3.1
	2.0	5.2	-2.6	3.9	-3.9	3.1	-4.7
	0.0	2.4	-5.4	1.8	-6.0	1.5	-6.4
Below dock	-2.0	-0.3	-8.2	-0.3	-8.1	-0.2	-8.1
	-4.0	-3.1	-11.0	-2.3	-10.2	-1.9	-9.7
	-6.0	-5.9	-13.8	-4.4	-12.3	-3.5	-11.4
	-8.0	-8.7	-16.6	-6.5	-14.4	-5.2	-13.1
	-10.0	-11.5	-19.4	-8.6	-16.5	-6.9	-14.7
	-12.0	-14.4	-22.2	-10.7	-18.6	-7.5	-15.3

4° lip bend, 16" lip.

Vehicle bed position from dock, (in.)		RAMP and LIP grades, % for each Dock Leveler length					
		6' Leveler		8' Leveler		10' Leveler	
		RAMP	LIP	RAMP	LIP	RAMP	LIP
Above dock	18.0	--	--	--	--	17.3	4.8
	16.0	--	--	--	--	15.6	3.0
	14.0	--	--	--	--	13.9	1.3
	12.0	20.5	8.0	15.3	2.7	12.2	-0.4
	10.0	17.6	5.0	13.1	0.6	10.5	-2.1
	8.0	14.7	2.2	11.0	-1.6	8.8	-3.8
	6.0	11.9	-0.7	8.9	-3.7	7.1	-5.5
	4.0	9.1	-3.5	6.8	-5.8	5.4	-7.1
	2.0	6.3	-6.3	4.7	-7.9	3.8	-8.8
	0.0	3.5	-9.1	2.6	-10.0	2.1	-10.5
Below dock	-2.0	0.7	-11.9	0.5	-12.0	0.4	-12.1
	-4.0	-2.1	-14.6	-1.6	-14.1	-1.2	-13.8
	-6.0	-4.9	-17.4	-3.6	-16.2	-2.9	-15.5
	-8.0	-7.7	-20.2	-5.7	-18.3	-4.6	-17.1
	-10.0	-10.5	-23.0	-7.8	-20.4	-6.3	-18.8
	-12.0	-13.3	-25.9	-9.9	-22.5	-7.9	-20.5

7° lip bend, 16" lip (Optional special order)

INSTALLATION

PIT CHECK

1. Check entire dock leveler pit for proper construction according to certified pit drawings (publication 5568). Check to be sure that the pit walls are square and plumb. Check electrical service running to the pit to assure it agrees with the correct location and voltage for the junction box. Area surrounding the leveling feet should be smooth and free of excessive lumps. Inspect the pit and remove all loose trash and construction debris. Verify the pit matches pit details for your leveler. See the installation troubleshooting on page 14 if the pit varies from the specification.

LEVELER CHECK PRIOR TO INSTALLATION

1. Visually check that the 4 rear hinge pins and retaining clips are in place.
2. Visually check that the lip shaft collars or shaft retainers are in place on both lip rods.
3. Visually check that cotter pins are in place on pins on the connecting rod, push bar, and the lip lifter assembly.
4. Verify that gas spring retaining pins have cotter pins installed.
5. Verify that both the lip lock and the maintenance strut are undamaged and have safety hitch pins on chains.
6. Visually check that the foot assemblies at the rear of the leveler are in place and undamaged.

PREPARE SITE

⚠ WARNING

Place barricades around pit on dock floor and drive while installing, maintaining or repairing dock leveler.

Power to control box must be from fused disconnect supplied by others. For correct fuse size refer to wiring diagrams on pages 15-24 of this manual. Fuses to be class CC time delay. Before doing any electrical work, make certain the power is disconnected and properly tagged or locked off. All electrical work must be done by a qualified technician and must meet all applicable codes. If it is necessary to make troubleshooting checks inside the control box with the power on, USE EXTREME CAUTION. Do not place fingers or uninsulated tools inside the control box. Touching wires or other parts inside the control box could cause electrical shock, resulting in death or serious injury.

1. The control station, User's Manual and dock bumpers are attached to the sub frame of the dock leveler. The maintenance strut has a plastic tie wrap holding them to the subframe. Remove these items before placing the leveler into the pit. Make sure the customer gets the user's manual and is properly trained.
2. Mount and wire push-button control station (See Fig. 2) and pit mounted receptacle. See Fig. 3. See wiring diagram located on the inside cover of the control box or wiring diagrams on pages 15-24 of this manual for wiring information. Follow the wiring instructions to set control for proper voltage. Wires shown in dashed lines are field connections.
3. If conduit must be installed (replacing an existing mechanical dock leveler) do so at this time. Refer to the conduit requirements on the pit detail publications 5568 and powered dock leveler wiring diagrams and typical installation drawings, and powered dock leveler wiring diagrams on pages 15-24 for electrical requirements. Follow all applicable electrical codes and standards.

Fig. 2

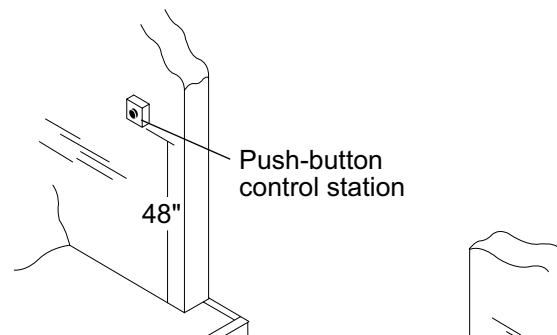
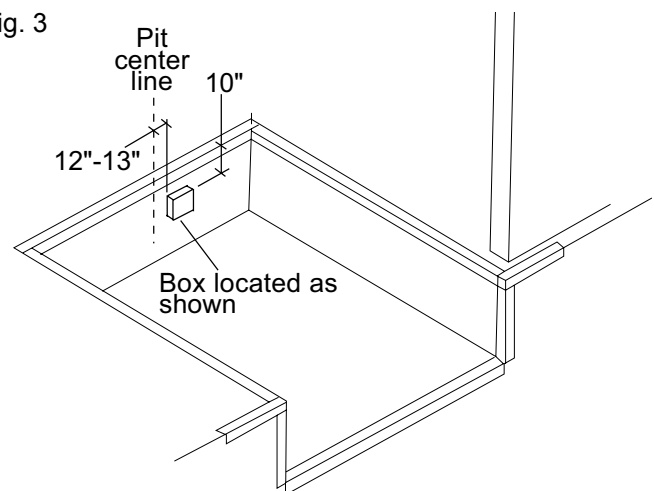


Fig. 3



INSTALLATION, continued

⚠ WARNING

Before installing the dock leveler, read and follow the Safety Practices on page 3. Failure to follow the Safety Practices could result in death or serious injury.

INSTALLATION OF DOCK LEVELER

6' and 8' long levelers using a standard 19" subframe can be field converted to allow installation in a 24" pit by adding a 4" riser kit, Kelley Part No. 6004654. Install the new riser leveling feet. The riser blocks should be welded to the front frame supports prior to placing in the pit. See publication #6003728 and page 45 in this manual.

1. Prior to lifting leveler make sure the shipping tie down bolts seen in Fig. 14 are in place. Install two 3/4"-10UNC load centering eye bolts into the front and rear of the top plate and hoist leveler into pit. The dock leveler should not be lifted in any other manner when placed into the pit. See Fig. 4.

⚠ WARNING

Inadequate lifting equipment or practices can cause a load to fall unexpectedly. Make sure the lifting chain or other lifting devices are in good condition and have a rated capacity of at least 3500 lbs for the lifting angle used. Never allow anyone to stand on or near the dock leveler when it is lifted or placed into the pit. Stand clear of the dock leveler when it is placed into the pit. Failure to follow this warning can allow the dock leveler to fall, tip, or swing into people, resulting in death or serious injury.

NOTICE

Route power cord clear of edges and resting surfaces so that it is not damaged during lifting and placement. Plug end may be routed up through the rear hinge until needed.

Fig. 4

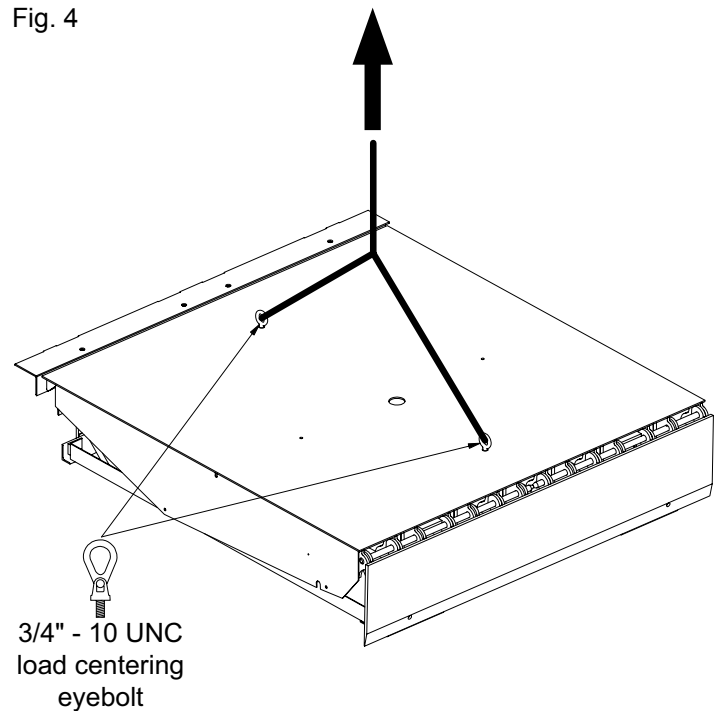
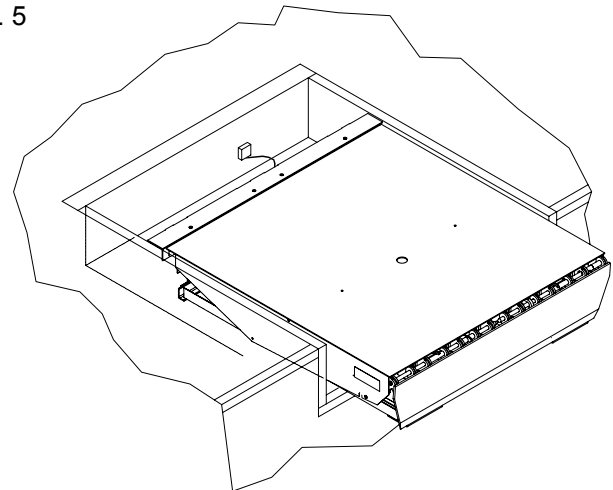


Fig. 5



INSTALLATION, continued

INSERTING THE LEVELER INTO THE PIT

2. Position dock leveler in pit about 7" away from the rear pit wall. Connect plug to receptacle on the rear pit wall. Cut tie wrap on cord to allow bag pan removal for service. Place the free length of cord inside of frame area, free of interference as the leveler is moved into the final position. See Fig. 5 and wiring diagrams on pages 15-24.

NOTE:

Check the pit floor for uneven or excess concrete in the area around the leveling feet 1"-6" from the rear wall. Use chisel to level out area if necessary.

3. Move the dock leveler back to the rear pit curb angle. See Fig. 6. With the rear leveler angle touching the rear pit angle, square up the sides of the pit to the sides of the leveler. The gap should be even on both sides. The rear frame angle should be within 1/4" on either sides of the pit curb angle.

NOTE:

The rear frame angle should be about 1/2" lower than the pit curb angle before leveling. This is normal. See Fig. 7.

LEVELING THE REAR FRAME

4. Using a 1/2" square drive (1/2" ratchet or impact tool) work from one side to the other, turn each of the leveling screws on the rear angle, **counter-clockwise** until the top surface of the rear angle is level with the rear pit curb angle. Repeat on each leg until all legs are in contact with the pit floor and the top frame angle is flush with the rear curb angle. See Fig 8.

NOTICE

The rear edge of the dock leveler should be level or slightly (1/16" maximum) below dock level.

The top surface of the dock leveler should be level and a smooth transition with the dock floor curb steel. The front end should be level and parallel with the rear frame angle for proper operation. Unequal adjustment of the front supports may be required to obtain a level front edge.

NOTICE

Turn off all electrical power to the leveler if it has been previously connected. Welding with dock levelers power connected can damage the electrical components. A ground must be attached to the leveler frame. Failure to do so can result in product damage.

Fig. 6

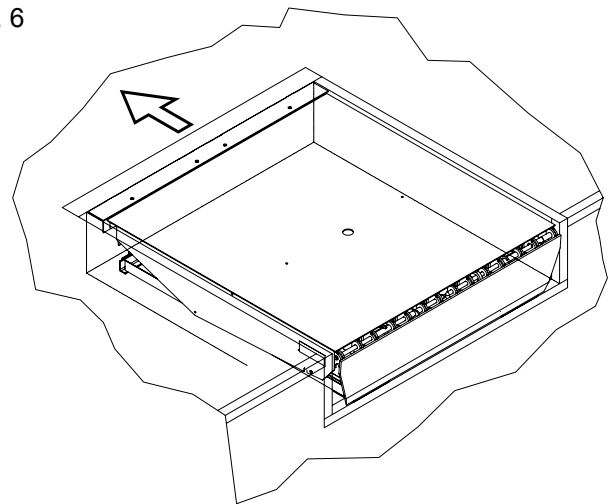
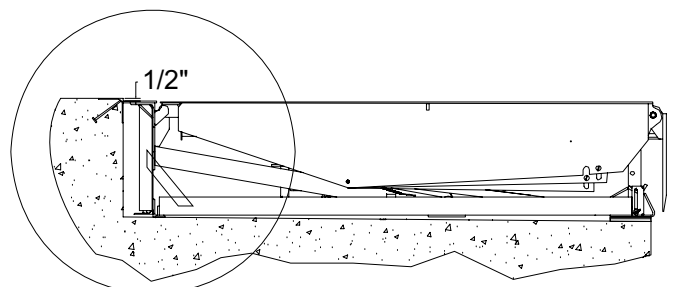
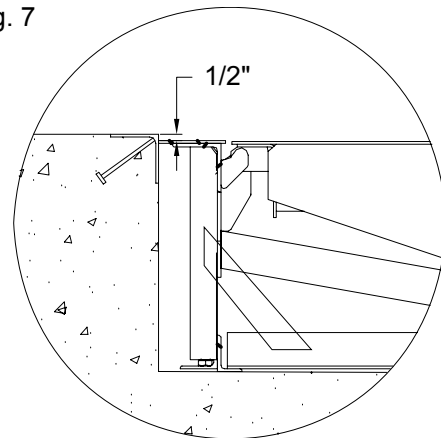


Fig. 7



INSTALLATION, continued

5. Check and adjust the leveler for square and in firm contact with the rear angle. The sides of the leveler should have a 1/2" gap and parallel with the sides of the pit. Tack weld the rear angle to the rear curb angle in 4 places min 3/8" at the center and at both ends. See Fig. 9 and 10.

NOTE:

Do not weld out the rear angle until after setting the front supports.

LEVELING THE FRONT FRAME

6. Remove and discard the shipping tie down bolts located at the lower end of the hinged lip assembly. See Fig. 14.

⚠ WARNING

Before welding the dock leveler supports to the front curb angle make sure that the dock leveler support legs line up with the "V" pocket in the dock leveler support angle. Move dock levelers support right or left for the necessary alignment.

7. Tack weld the front dock leveler supports to the front curb angle. See Fig. 12.
8. With the lip pendant insert 24" long 1/2" extensions between lip and lip rod onto dock leveler support leveling screw. See Fig. 12. Using a 1/2" drive (1/2" ratchet or impact tool) turn each leveling screw **counter-clockwise** until the top of the levelers is flush with the finished floor/pit curb steel where the overhead door meets the floor. See Fig. 11.
9. Weld the rear frame angle to the rear curb angle using 1/4" bevel joints in the transition plate as your guide. See Fig. 10.
10. After the rear hinge is welded check that all rear leveling legs are in contact with the floor of the pit. Once all legs are in contact with floor, tighten each leg leveling screw **counter-clockwise** to 25-40 ft. lbs.

Fig. 8

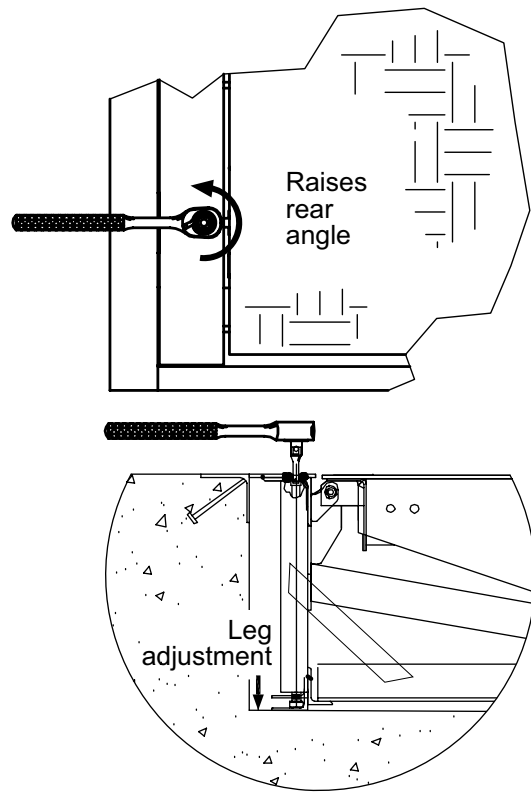


Fig. 9

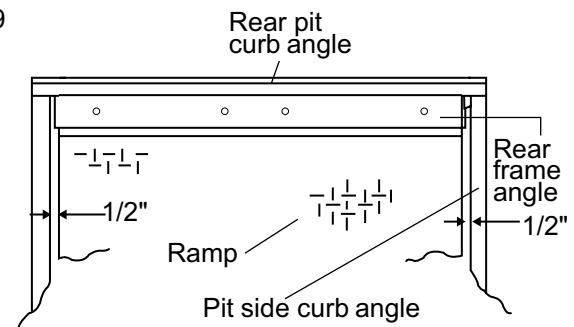
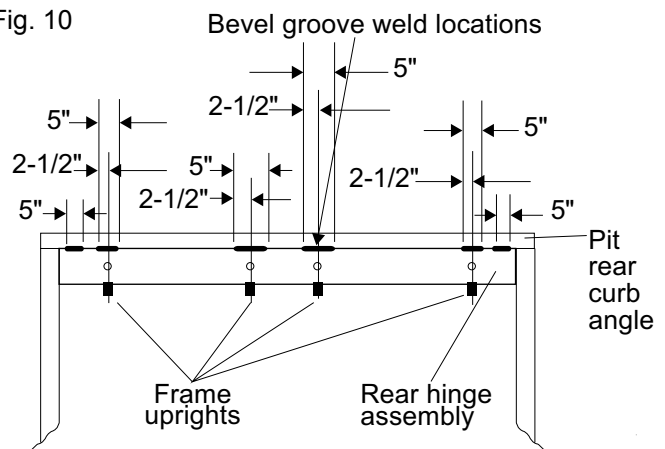


Fig. 10



INSTALLATION, continued

11. If a field installed riser kit is being used, do not use hydraulics to position leveler on maintenance strut before cylinder support riser is in place. Use a suitable lifting device to place leveler on maintenance strut per step 12 below, then position and weld in the cylinder support bracket. If electrical power is available, reconnect power and use the electrical controls to raise the ramp and lip to their full above dock position. See operating instructions on front cover of control box. If electrical power is not available, raise ramp using a chain or other suitable lifting device.

⚠ DANGER

Hydraulic pressure or mechanical support must be maintained on the ramp to hold it in the raised position until the maintenance strut is in place. DO NOT WORK UNDER THE DOCK LEVELER RAMP OR LIP UNLESS THE MAINTENANCE STRUT AND LIP LOCK ARE IN PLACE AND PINNED.

12. Two people are needed to place the dock leveler on the maintenance strut.
- One person must hold dock leveler in its highest position with electrical controls or other suitable lifting device.
 - The second person positions the maintenance strut into the bracket located on the underside of the ramp assembly and pins it in place with hairpin clip. See Fig. 15 and instruction label on maintenance strut.
 - Electrical controls may now be released.
13. 6x16" shims of the proper thickness are to be placed under the ramp cylinder mounting pad and welded out as shown in Fig. 13.

Fig. 11

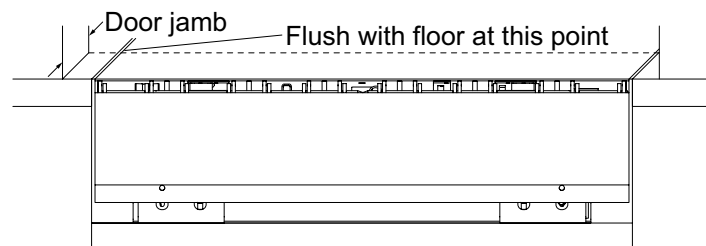


Fig. 12

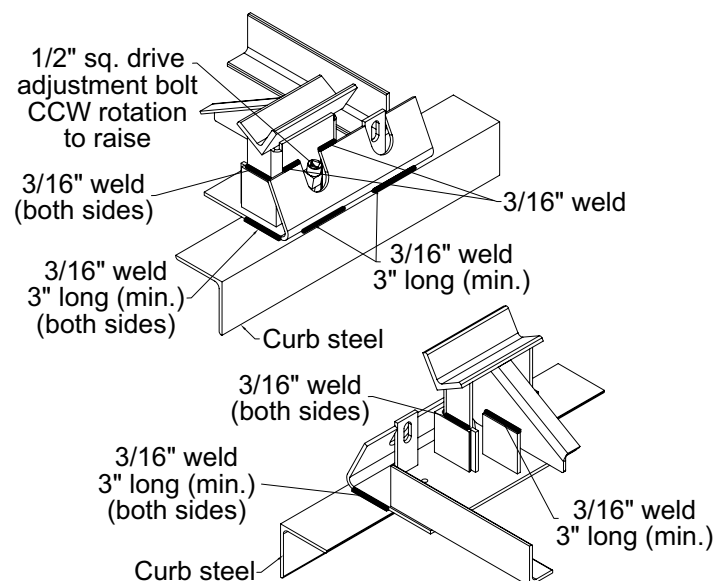
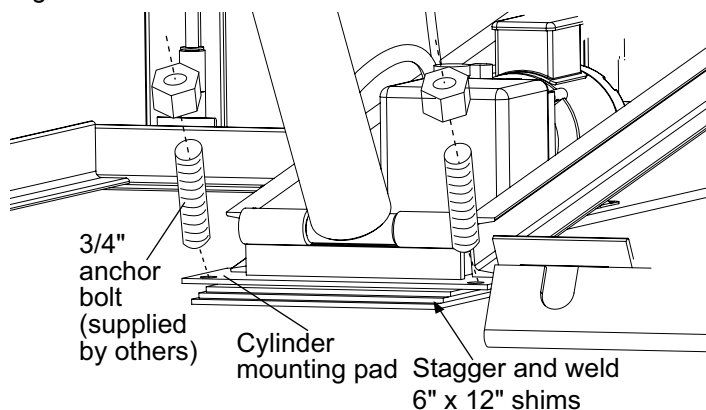


Fig. 13



INSTALLATION, continued

⚠ DANGER

Manual support of the lip must be maintained until the lip lock is in place. The lip is free to move downward when it is released unless the lip lock is pinned in place. DO NOT WORK UNDER THE DOCK LEVELER RAMP OR LIP UNLESS THE MAINTENANCE STRUT AND LIP LOCK ARE IN PLACE AND PINNED.

14. Manually lift the hinged lip into the raised position and lock into place with the lip lock provided on the dock leveler ramp. Pin lip lock in place with hairpin clip. See Fig. 15 and instruction label located on the underside of the dock leveler ramp.

⚠ CAUTION

Welding with the dock levelers power connected can damage electrical components. If the dock leveler has been previously connected, turn off power to control box and unplug all electrical cords from receptacles in rear pit wall before welding. Failure to do so can result in product damage.

15. Finish welding both of the adjusted dock leveler supports in all locations shown in Fig. 12.
16. Check shims under ramp cylinder pad. Adjust thickness if necessary.

⚠ WARNING

Improper installation of anchoring devices or installation into aged or unsound concrete could result in death or serious injury.

17. Drill and install 3/4" diameter anchor bolts (min. 3" deep) in ramp cylinder mounting pad. Weld shims to pad as noted in Fig 13.
18. Remove and discard shipping cotter pins from toe guards on both sides of dock leveler. See Fig. 16.
19. Remove lifting chain or other lifting devices. Remove lifting hooks from the sides of the ramp.
20. Read the Safety Practices on page 3, and the Operation Instructions on pages 25 through 30 before operating the dock leveler.

Fig. 14

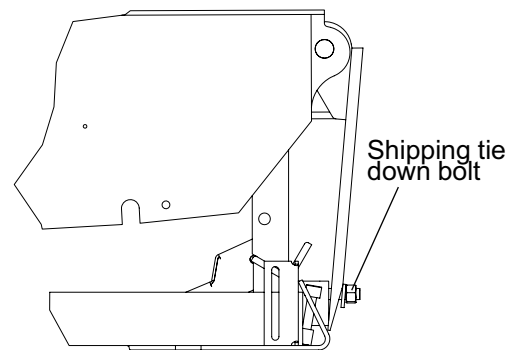


Fig. 15

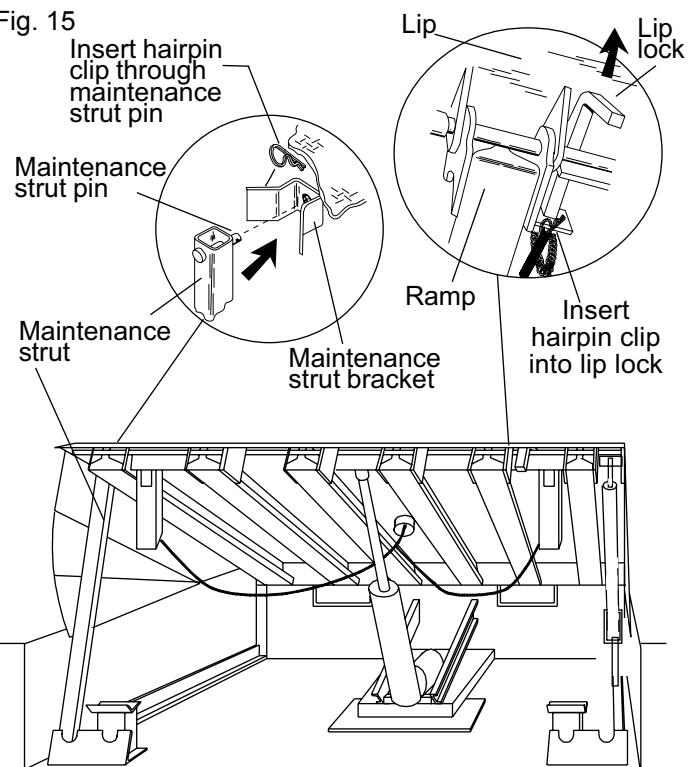
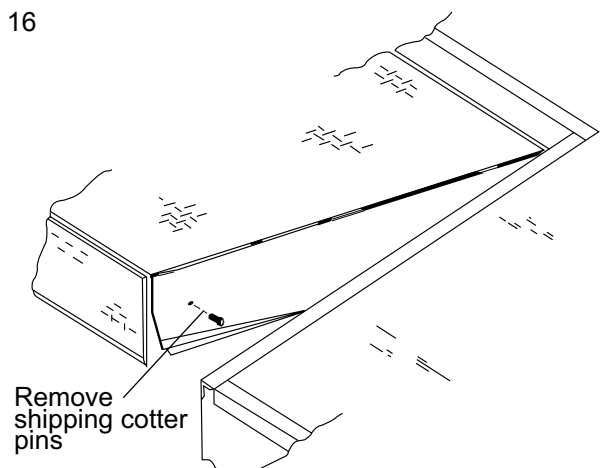


Fig. 16



INSTALLATION, continued

⚠ WARNING

Improper installation of anchoring devices or installation into aged or unsound concrete could result in death or serious injury.

NOTICE

The dock face must be flush with curb angle to assure proper bumper mounting.

21. Mount dock bumpers to face of dock. Downhill welds are unacceptable. See Fig. 17 or 18.
22. Plug or wire in electrical cords and connect power to dock leveler.

⚠ DANGER

Manually support the lip when storing the lip lock. Stand clear of the lip when removing support. The lip is free to move downward when support is removed. Anyone in the path of the lip when it moves downward can be struck. Keep your hands, fingers and head away from the lip when it is released. They could be struck by the lip or caught between the lip and other parts of the dock leveler resulting in death or serious injury.

DO NOT REMOVE MAINTENANCE STRUT WITHOUT HYDRAULIC PRESSURE OR A MECHANICAL LIFTING DEVICE SUPPORTING RAMP. Raise ramp with hydraulic pressure or mechanical device before storing maintenance strut. Stand clear of ramp and lip when hydraulic pressure or mechanical lift is applied or removed. Ramp and lip are free to move downward when support is removed. Removing support without hydraulic pressure could allow ramp to drop RAPIDLY. If the dock leveler was raised using a mechanical device, it should be lowered using the same device.

23. Lift up on the hinged lip and store the lip lock under the ramp.
24. Two people are needed to store the maintenance strut.
 - a. One person must push and hold the raise button until dock leveler reaches its highest position and hold dock leveler in its highest position.

Fig. 17

Molded "L" bumpers

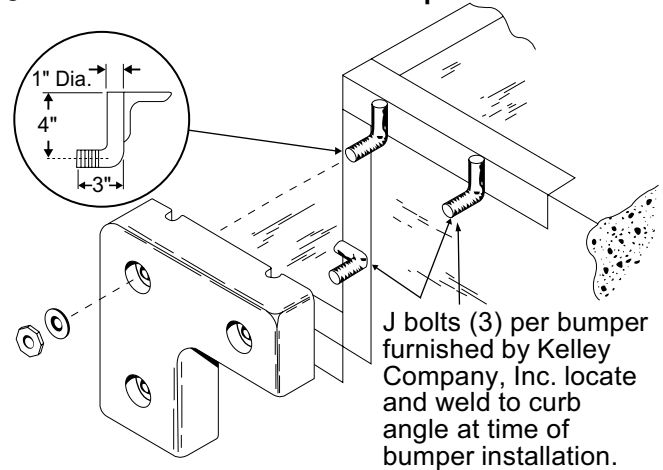
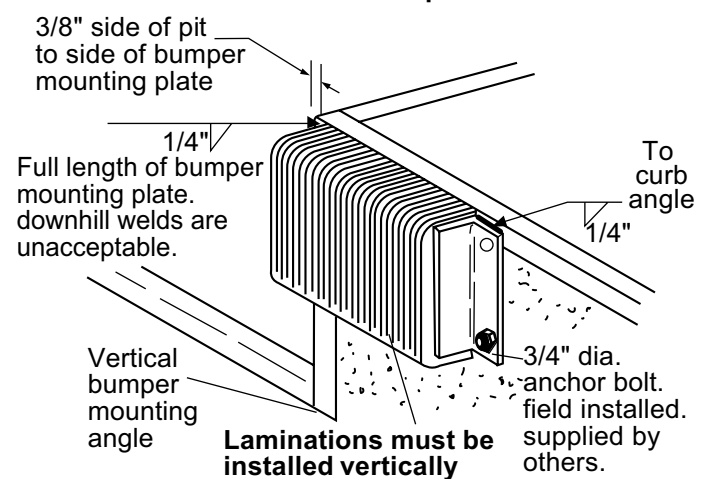


Fig. 18

Laminated bumpers



INSTALLATION, continued

- b. The second person unpins the maintenance strut from the bracket on the ramp and stores it on the subframe. See Fig. 15 and the instruction label on maintenance strut
- c. The raise button may now be released. The ramp will lower and the lip will extend when the button is released.

⚠ CAUTION

The hinged lip will extend as the ramp moves down.

25. Place the dock leveler in both dock leveler storage position and full below dock end load position. If lip is being supported by the curb steel in either position, a deflector plate must be created to allow leveler to store and reach its full below dock position without getting hung up on the pit floor.

⚠ WARNING

Improper installation that allows the pendant dock leveler lip to support the weight of the dock leveler could result in death or serious injury. It is sometimes necessary to install lip deflector plates to avoid any chance of the pendant lip supporting the weight of the dock leveler either near dock level or during a below dock end load.

26. Permanently mount the laminated dock leveler WARNING and OPERATING instruction placard on the wall near the dock leveler control. See Fig. 19. Make sure the customer gets the user's manual and is properly trained. Make sure customer gets user's manual and is properly trained.

27. Operate the dock leveler four times through the complete cycle to check operation. (See Operation section, page 25.)

NOTE:

If you have any problems or questions using or operating the dock leveler, contact your supervisor or local Kelley® distributor for assistance.

28. Optional (where applicable), install rear angle cap plugs (part number 6004488) into adjustment socket holes. Press cap flush with top surface to rear angle. See Fig. 20.

Fig. 19

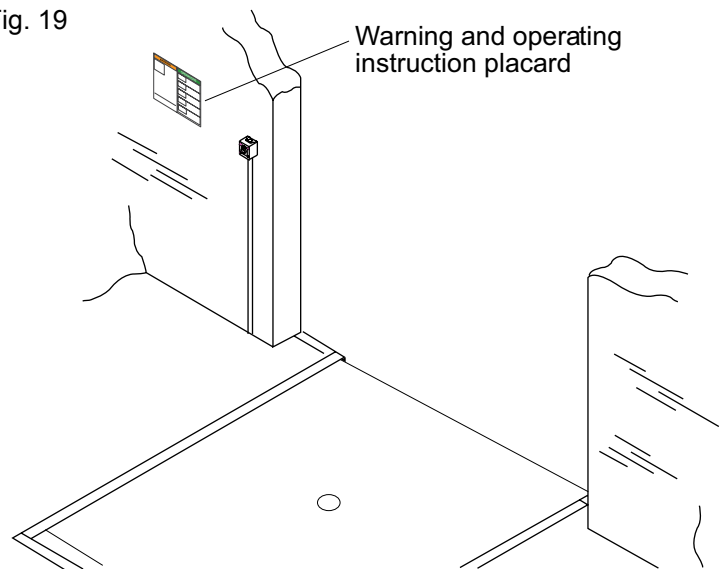
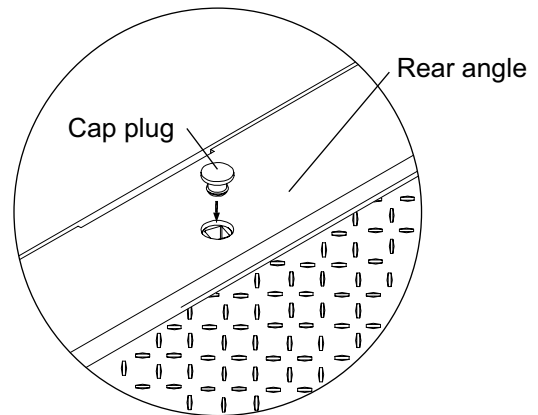


Fig. 20



INSTALLATION, continued

INSTALLATION TROUBLESHOOTING

The following procedures apply after the leveler is level in the pit.

PROBLEM	POSSIBLE CAUSE	SOLUTION
1) Leveler will not fit properly in pit.	<p>a) Pit is out of square with the sides.</p> <p>b) One side and rear angle is out of square.</p> <p>c) Pit floor irregular in rear.</p> <p>d) Pit is too deep.</p>	<p>a) Align the sides parallel and equally spaced with the rear frame angle touching the rear curb angle in one place. Fill the gap between the rear curb angle and rear frame angle using shims in weld pattern noted in Fig. 10. See Fig 21.</p> <p>b) Align the leveler with the two square edges. The gap on the sides should be even in the most narrow section (1/2" Max. per side). See Fig. 22.</p> <p>c) If large deformations exist in the concrete work, attempt to flatten out the rough surface using a chisel or grinder to take out the large obstructions. The rear leveling legs can be installed on out of plane surfaces up to 1/8" at each leg. See Fig. 23.</p> <p>d) Weld 4" x 4" shims to the bottom of the adjustable legs.</p>

Fig. 21

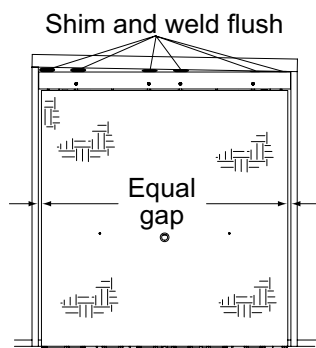


Fig. 22

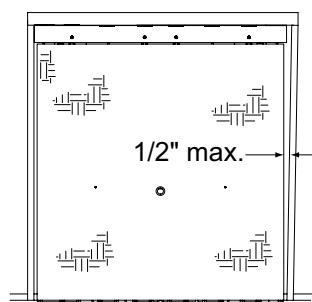
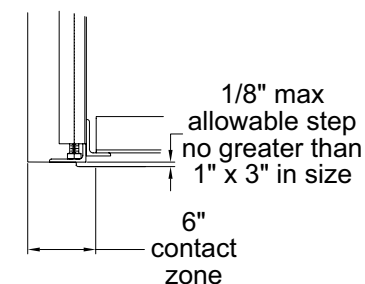


Fig. 23



WIRING DIAGRAMS — CONTROL BOX — STANDARD

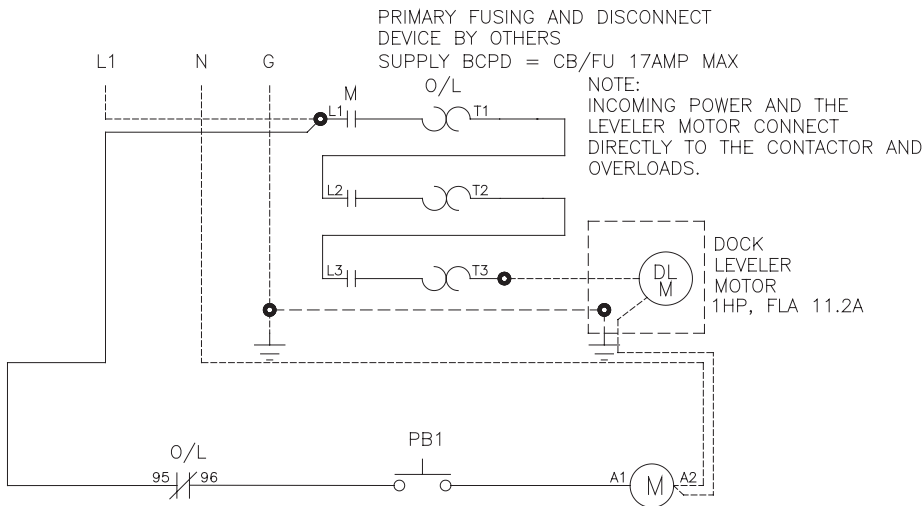
⚠ DANGER

Before doing any electrical work, make certain the power is disconnected and properly tagged or locked off. All electrical work must be done by a qualified technician and meet all applicable codes. If it is necessary to make troubleshooting checks inside the control box with the power on, USE EXTREME CAUTION. Do not place your fingers or uninsulated tools inside the control box. Touching wires or other parts inside the control box could result in electrical shock, death or serious injury.

NOTE:

For 24V incoming power consult factory.

6006461 — 120V, 1 PH, 50/60 HZ

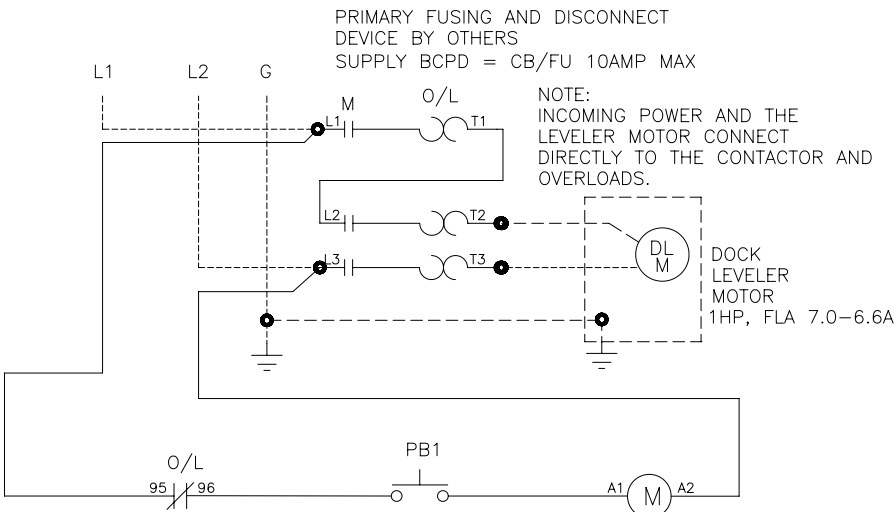


LEGEND

- | | |
|-----|--------------------------|
| M | DOCK LEVELER CONTACTOR |
| PB1 | LEVELER RAISE |
| ● | DIRECT DEVICE CONNECTION |

LEGEND:
EXTERNAL CONNECTIONS -----
INTERNAL WIRING _____

6006462 — 208-240V, 1 PH, 60 HZ



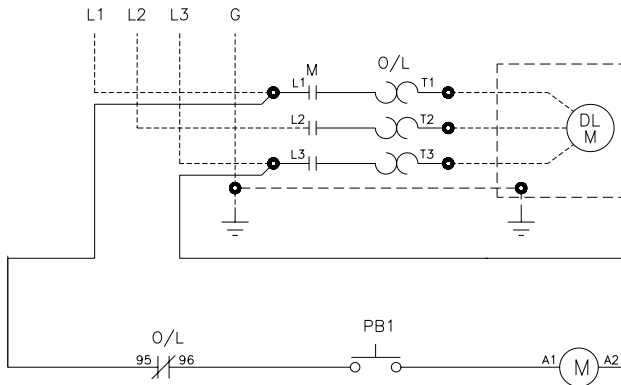
LEGEND

- M DOCK LEVELER CONTACTOR
PB1 LEVELER RAISE
● DIRECT DEVICE CONNECTION

LEGEND:
EXTERNAL CONNECTIONS -----
INTERNAL WIRING _____

WIRING DIAGRAMS — STANDARD

6006450 — 208-230V, 3PH, 50/60 HZ



DOCK
LEVELER
MOTOR
1HP, FLA 4-3.6A

PRIMARY FUSING AND DISCONNECT
DEVICE BY OTHERS
SUPPLY BCPD = CB/FU 6AMP MAX

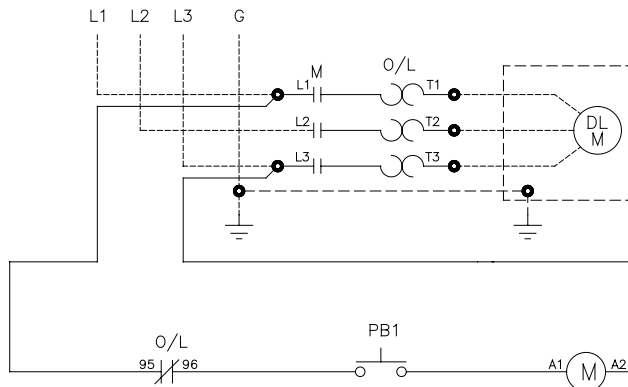
NOTE:
INCOMING POWER AND THE
LEVELER MOTOR CONNECT
DIRECTLY TO THE CONTACTOR AND
OVERLOADS.

LEGEND

M DOCK LEVELER CONTACTOR
PB1 LEVELER RAISE
● DIRECT DEVICE CONNECTION

LEGEND:
EXTERNAL CONNECTIONS -----
INTERNAL WIRING _____

6006451 — 460-480V, 3PH, 60 HZ



DOCK
LEVELER
MOTOR
1HP, FLA 1.8A

PRIMARY FUSING AND DISCONNECT
DEVICE BY OTHERS
SUPPLY BCPD = CB/FU 3AMP MAX

NOTE:
INCOMING POWER AND THE
LEVELER MOTOR CONNECT
DIRECTLY TO THE CONTACTOR AND
OVERLOADS.

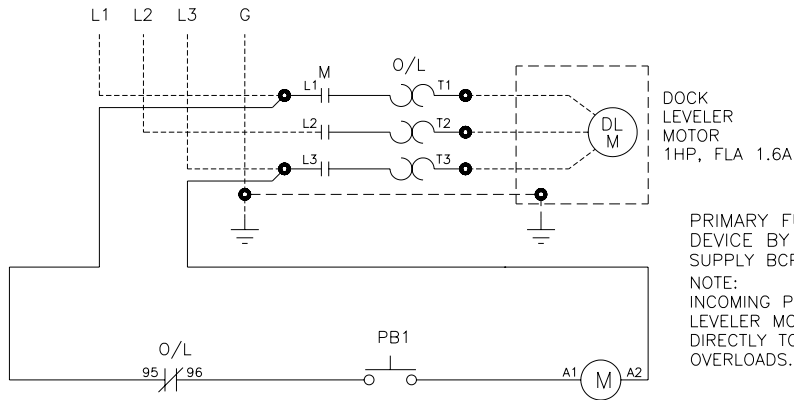
LEGEND

M DOCK LEVELER CONTACTOR
PB1 LEVELER RAISE
● DIRECT DEVICE CONNECTION

LEGEND:
EXTERNAL CONNECTIONS -----
INTERNAL WIRING _____

WIRING DIAGRAMS — STANDARD, continued

6006452 — 575V, 3PH, 60 HZ



LEGEND

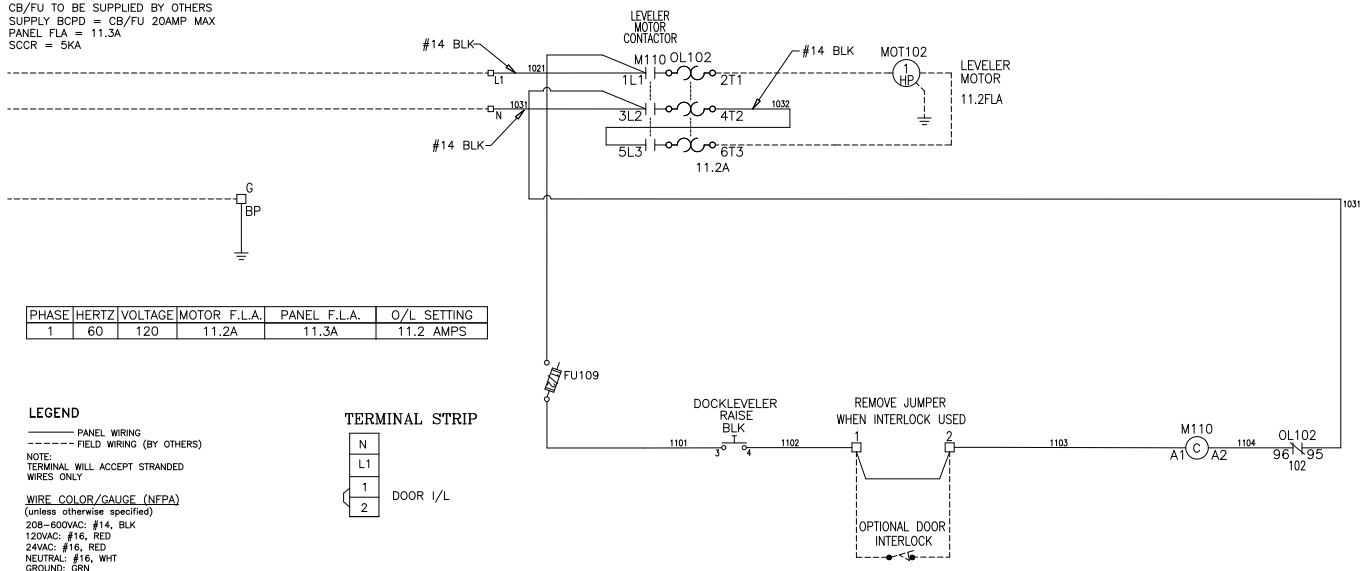
- M DOCK LEVELER CONTACTOR
- PB1 LEVELER RAISE
- DIRECT DEVICE CONNECTION

LEGEND:
EXTERNAL CONNECTIONS -----
INTERNAL WIRING _____

WIRING DIAGRAMS WITH INTERLOCK

6011372 — 120V, 1PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
SUPPLY BCPD = CB/FU 20AMP MAX
PANEL FLA = 11.3A
SCCR = 5KA



WIRING DIAGRAMS WITH INTERLOCK, continued

6011325 — 208V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
SUPPLY BCPD = CB/FU 6AMP MAX
PANEL FLA = 4.1A
SCCR = 5KA

TABLE: A

PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
3	60	208	4.0A	4.1A	4.0 AMPS

TABLE: B

TRANSFORMER WIRING	
PRIMARY VOLTAGE	PRIMARY CONN.
208	H4-H3

LEGEND

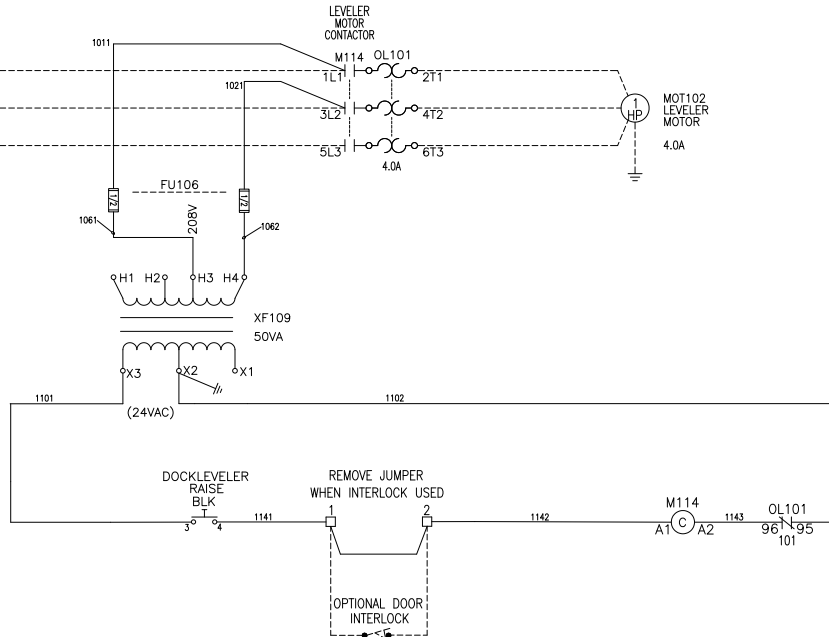
— PANEL WIRING
- - - - - FIELD WIRING (BY OTHERS)

NOTE:
TERMINALS WILL ACCEPT STRANDED
WIRES ONLY

WIRE COLOR/GAUGE (NEPA)

(unless otherwise specified)
208-600VAC: #14, BLK
120VAC: #16, RED
24VAC: #16, RED
NEUTRAL: #16, WHT
GROUND: GRN

TERMINAL STRIP



6011761 — 240V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
SUPPLY BCPD = CB/FU 6AMP MAX
PANEL FLA = 3.7A
SCCR = 5KA

TABLE: A

PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
3	60	240	3.6A	3.7A	3.6AMPS

TABLE: B

TRANSFORMER WIRING	
PRIMARY VOLTAGE	PRIMARY CONN.
220/240	H4-H2

LEGEND

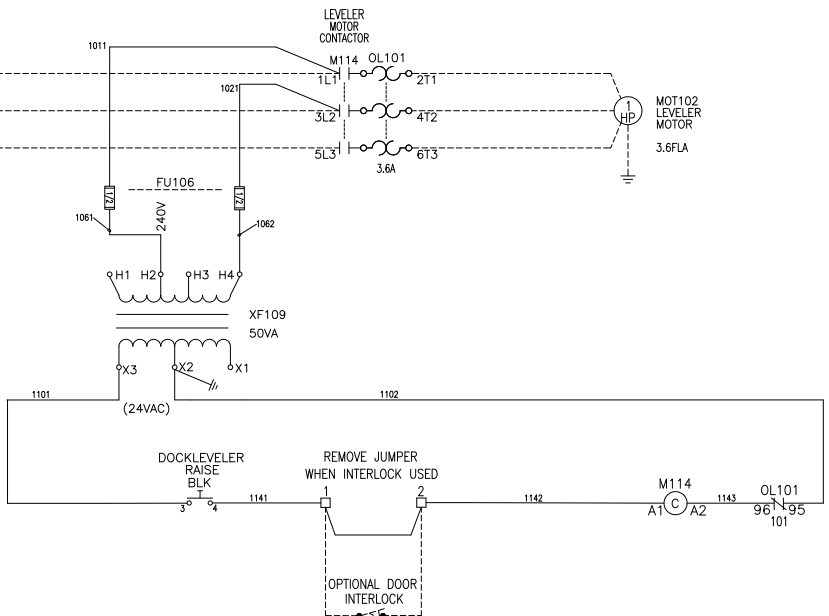
— PANEL WIRING
- - - - - FIELD WIRING (BY OTHERS)

NOTE:
TERMINALS WILL ACCEPT STRANDED
WIRES ONLY

WIRE COLOR/GAUGE (NEPA)

(unless otherwise specified)
208-600VAC: #14, BLK
120VAC: #16, RED
24VAC: #16, RED
NEUTRAL: #16, WHT
GROUND: GRN

TERMINAL STRIP



WIRING DIAGRAMS WITH INTERLOCK, continued

6011326 — 460-480V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
SUPPLY BCPD = CB/FU 3AMP MAX
PANEL FLA = 1.9AMPS
SCCR = 5KA

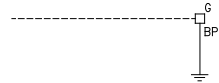


TABLE: A

PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
3	60	460	1.8A	1.9A	1.8 AMPS

TABLE: B

TRANSFORMER WIRING	
PRIMARY VOLTAGE	PRIMARY CONN.
480/460	H4-H1

LEGEND

— PANEL WIRING
- - - FIELD WIRING (BY OTHERS)

NOTE:
TERMINALS WILL ACCEPT STRANDED
WIRES ONLY

WIRE COLOR/GAUGE (NEPA)

(unless otherwise specified)

208-600VAC: #14, BLK

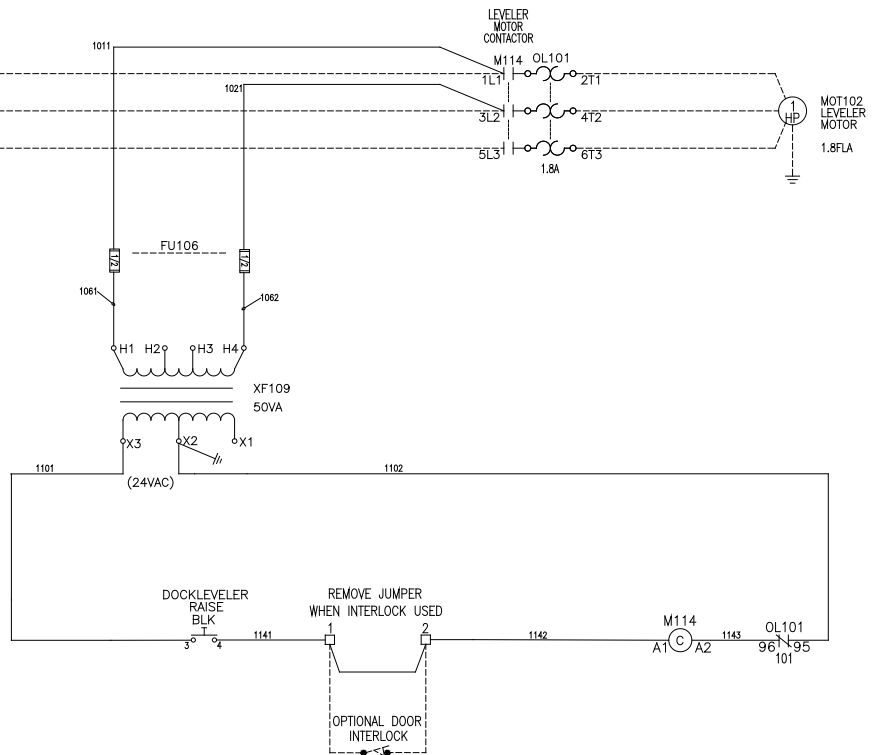
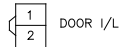
120VAC: #16, RED

24VAC: #16, RED

NEUTRAL: #16, WHT

GROUND: GRN

TERMINAL STRIP



6011651 — 575V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
SUPPLY BCPD = CB/FU 3AMP MAX
PANEL FLA = 1.7A
SCCR = 5KA

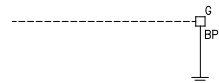
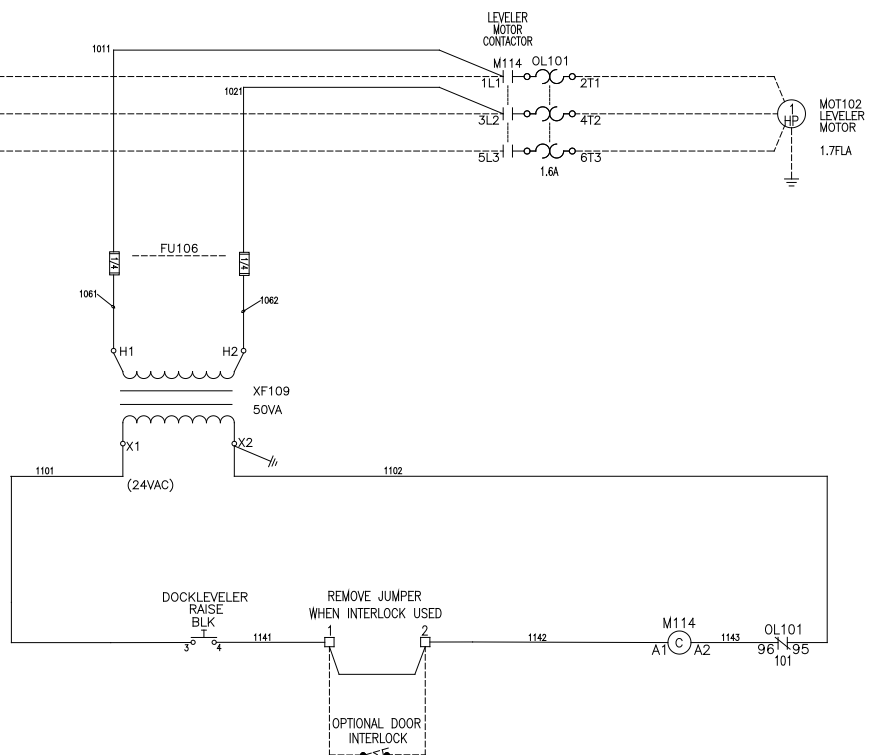
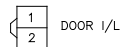


TABLE: A

PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
3	60	575	1.6A	1.7A	1.6AMPS

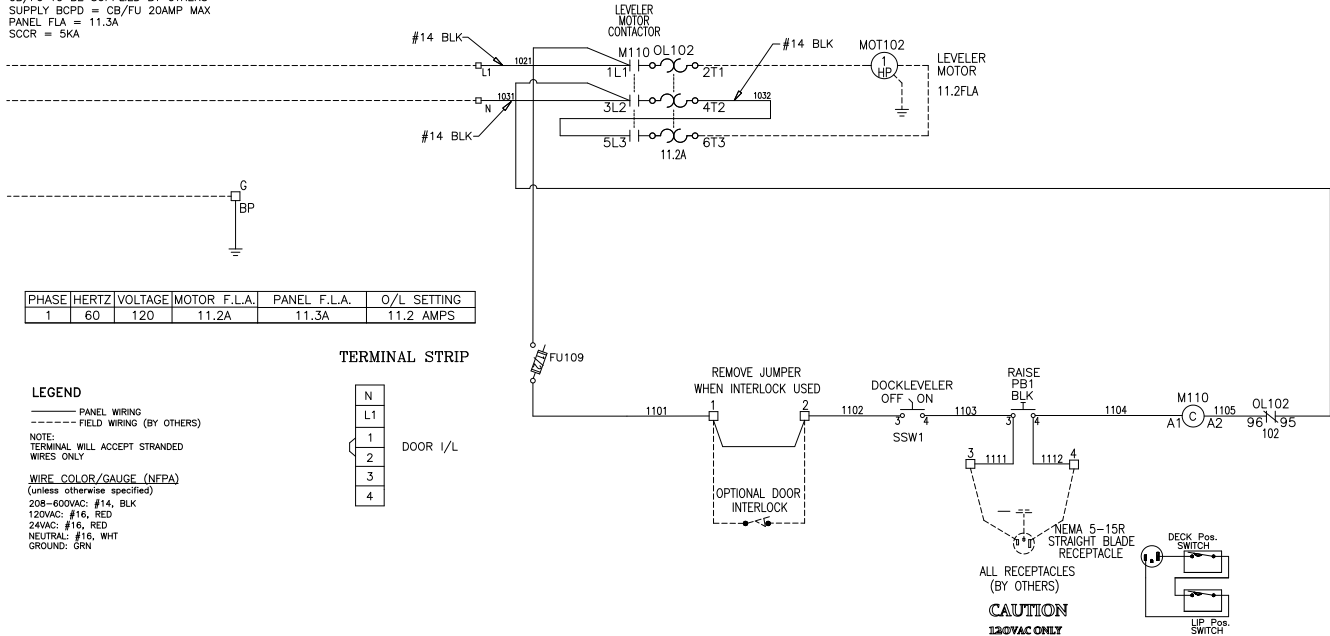
TERMINAL STRIP



WIRING DIAGRAMS WITH INTERLOCK AND AUTO-RETURN TO DOCK

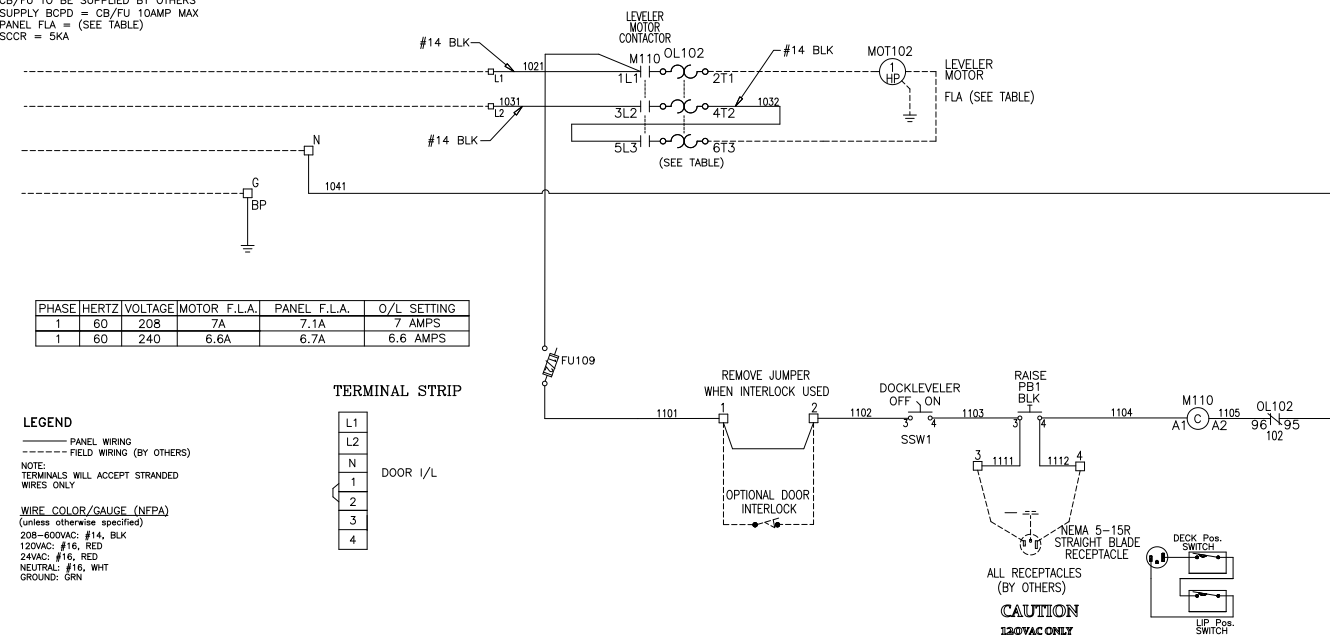
6011323 — 120V, 1PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
SUPPLY BCPD = CB/FU 20AMP MAX
PANEL FLA = 11.3A
SCCR = 5KA



6011324 — 208/240V, 1PH, 60 HZ

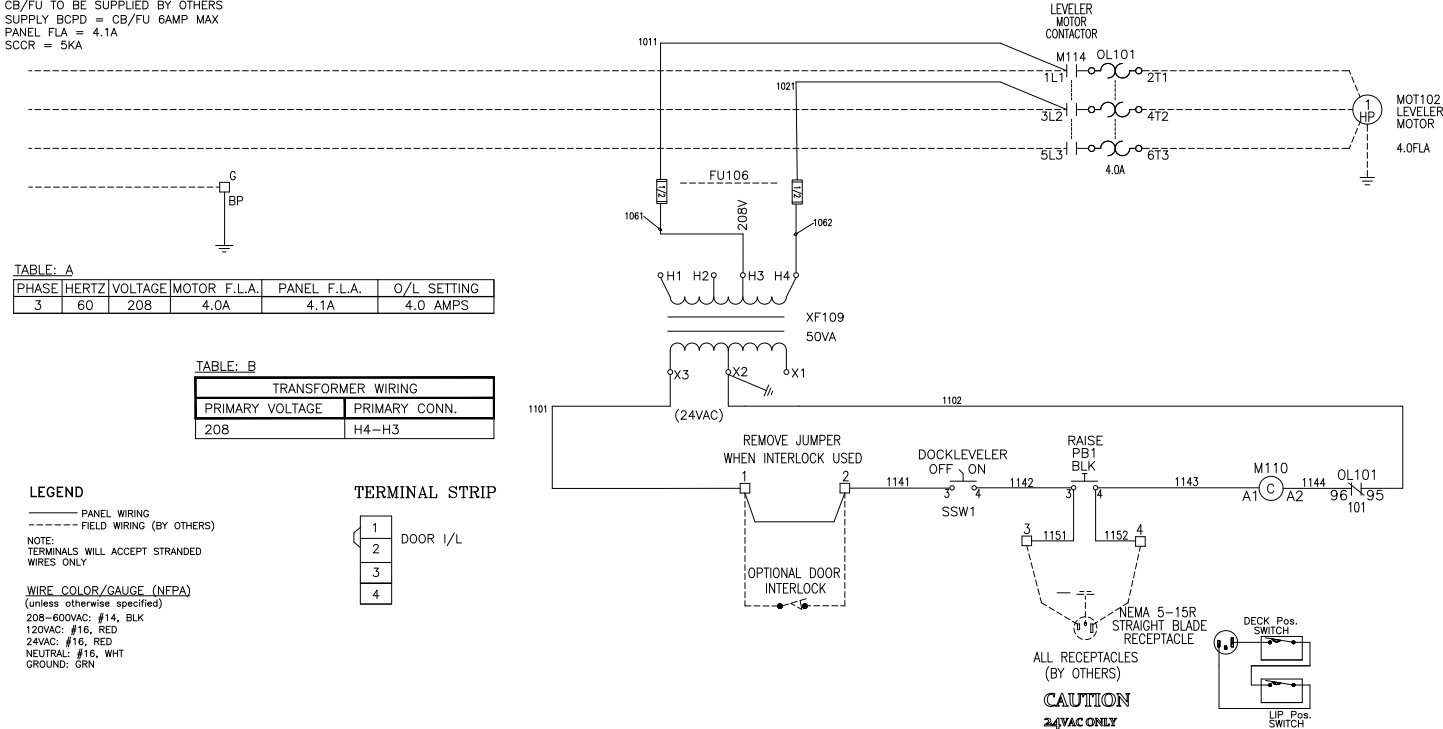
CB/FU TO BE SUPPLIED BY OTHERS
SUPPLY BCPD = CB/FU 10AMP MAX
PANEL FLA = (SEE TABLE)
SCCR = 5KA



WIRING DIAGRAMS WITH INTERLOCK AND AUTO-RETURN TO DOCK, continued

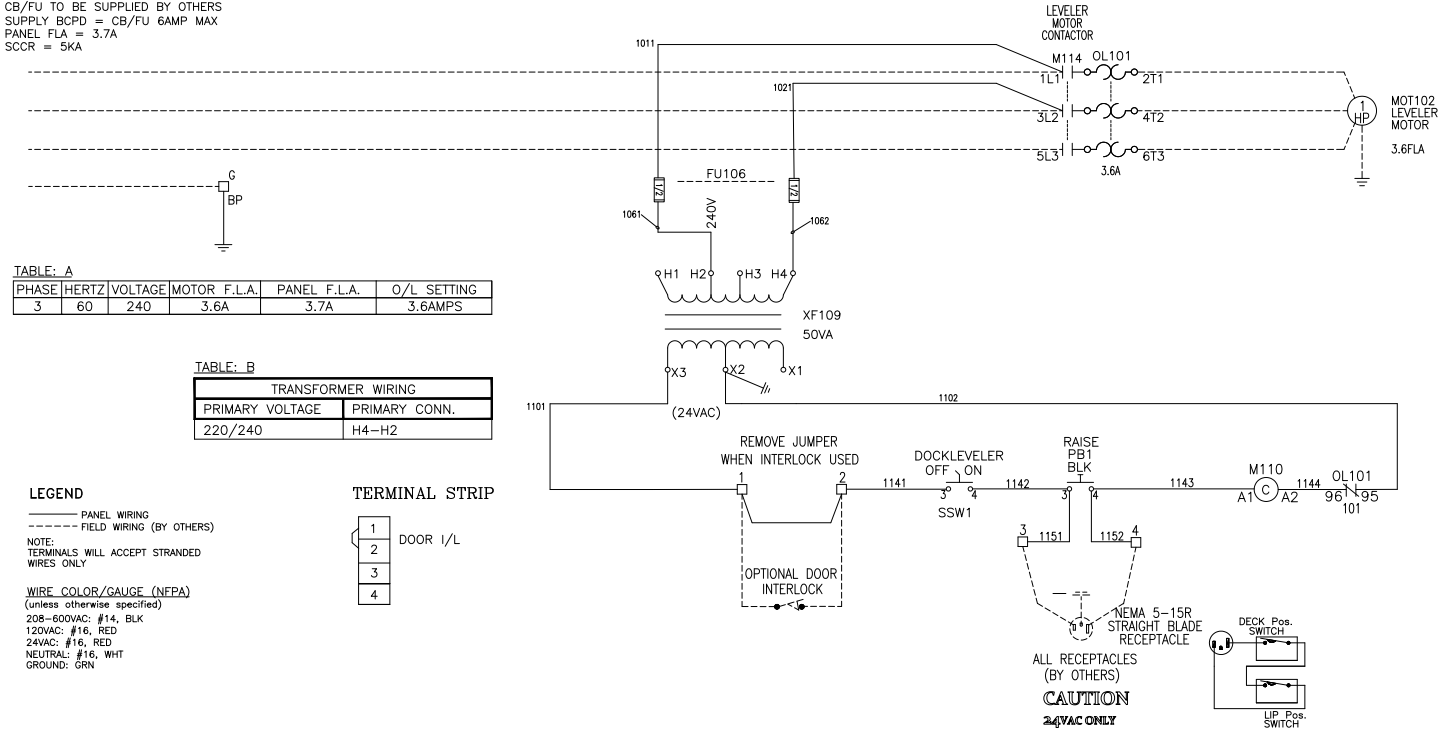
6011327 — 208V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
SUPPLY BCPD = CB/FU 6AMP MAX
PANEL FLA = 4.1A
SCCR = 5KA



6011762 — 240V, 3PH, 60 HZ

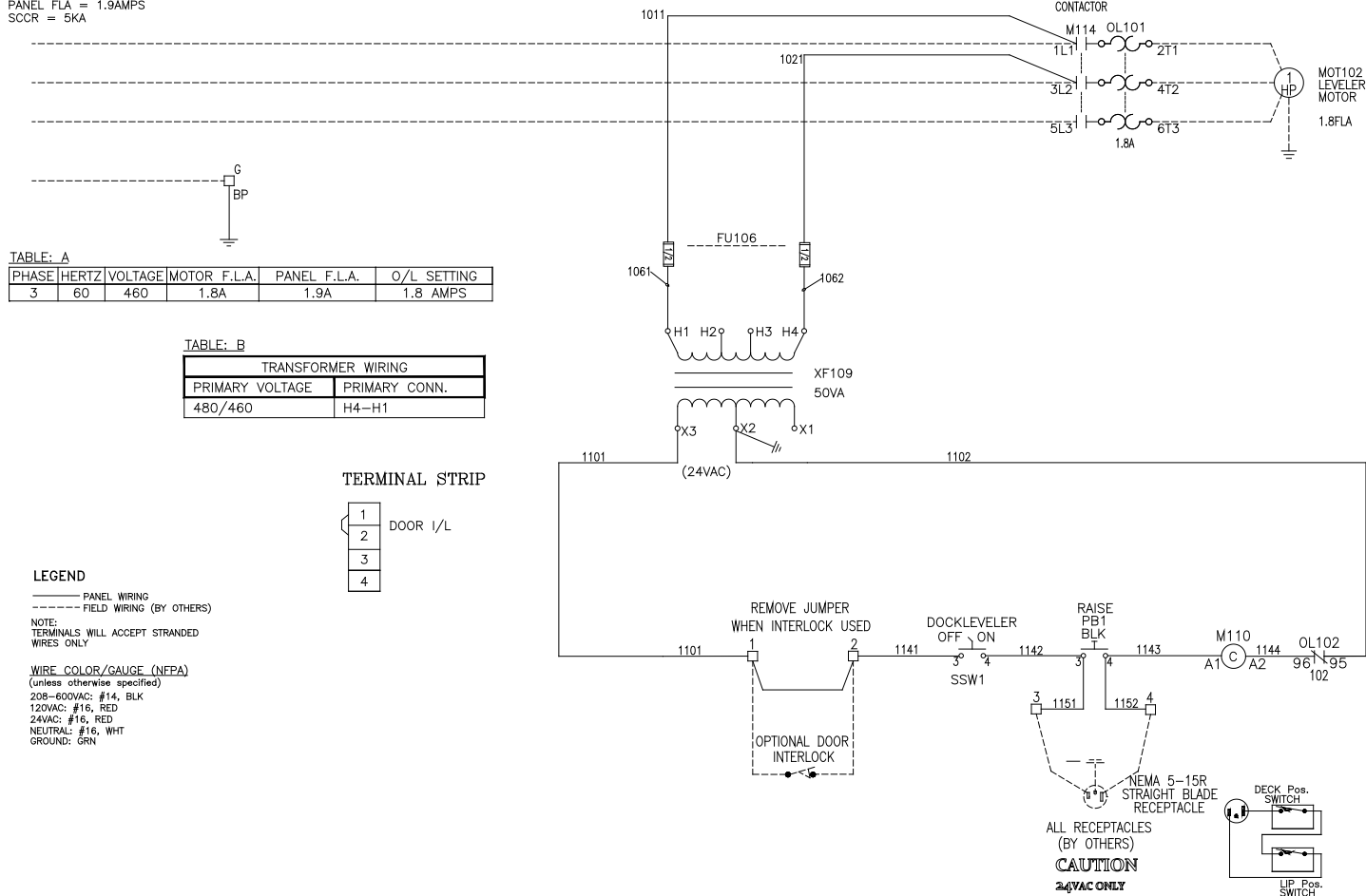
CB/FU TO BE SUPPLIED BY OTHERS
SUPPLY BCPD = CB/FU 6AMP MAX
PANEL FLA = 3.7A
SCCR = 5KA



WIRING DIAGRAMS WITH INTERLOCK AND AUTO-RETURN TO DOCK, continued

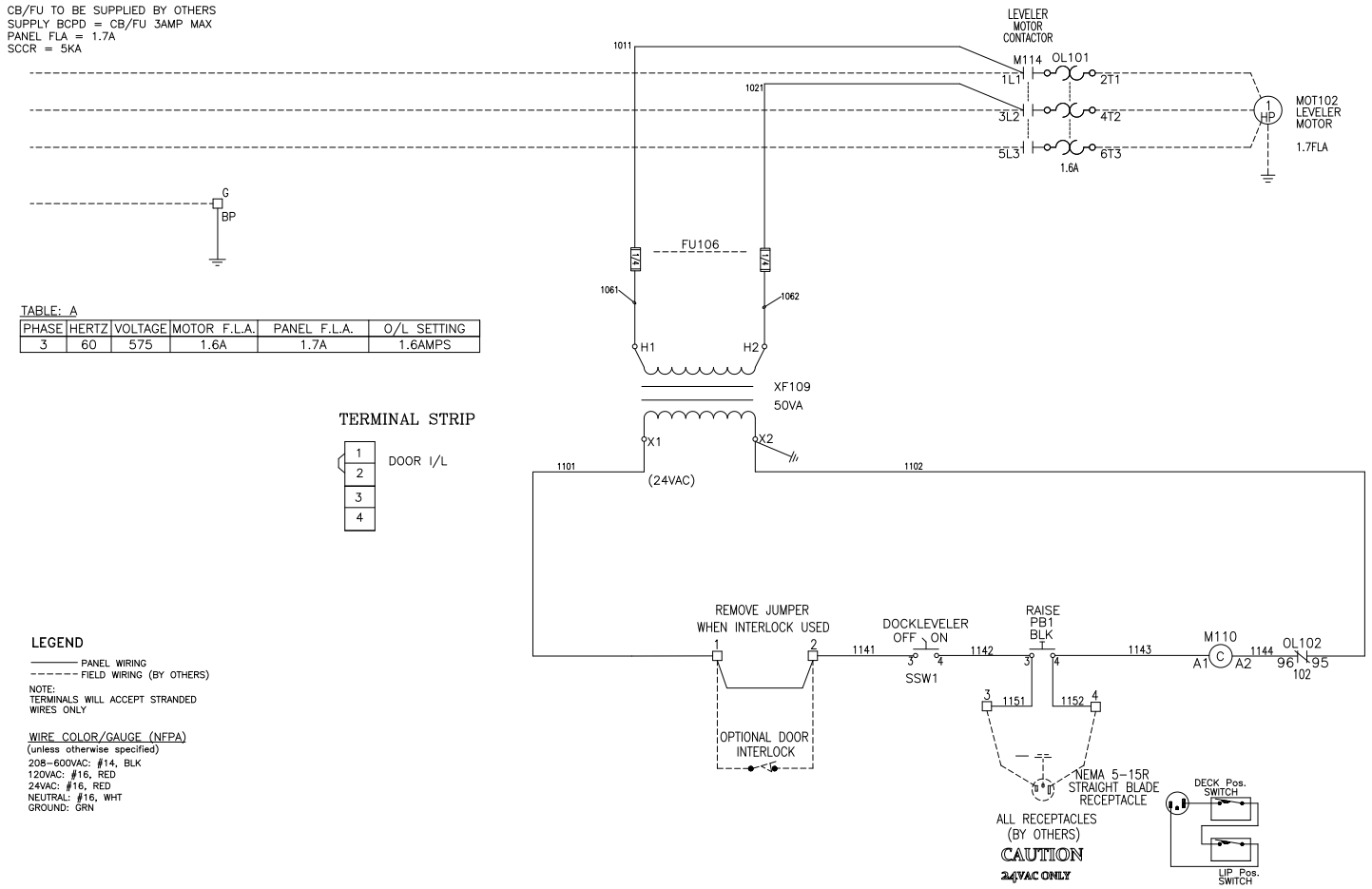
6011328 — 460-480V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
SUPPLY BCPD = CB/FU 3AMP MAX
PANEL FLA = 1.9AMPS
SCCR = 5KA



WIRING DIAGRAMS WITH INTERLOCK AND AUTO-RETURN TO DOCK, continued

6011652 — 575V, 3PH, 60 HZ



NOTE:
For 24V incoming power consult factory.

DOCK LEVELERS WITH STANDARD CONTROL BOX

⚠ WARNING

Before operating the dock leveler, read and follow Safety Practices on page 3.

Use of dock leveler restricted to trained operators. Follow procedures on placard posted near leveler

DO NOT USE THE DOCK LEVELER IF IT LOOKS BROKEN, OR DOES NOT SEEM TO WORK RIGHT. Tell your supervisor it needs repair right away.

Before pressing button, ensure lip avoids contact with vehicle sides and cargo. If lip does not lower to vehicle bed, reposition vehicle.

Stay clear of leveler unless lip is supported by vehicle bed or the leveler is stored at dock level. Visually check that the lip is supported by the vehicle bed or the ramp is supported by both dock level supports before driving or walking on the ramp. Unsupported dock levelers can lower unexpectedly.

Before chocking wheels or engaging vehicle restraint, dump air from air ride suspensions and set parking brakes.

Always be certain that the vehicle wheels are chocked, or that the vehicle is locked in place by a vehicle restraining device and the brakes are set before loading or unloading. Vehicles pulling away from the dock unexpectedly can cause uncontrolled drop of the dock leveler which can result in death or serious injury.

The maximum uncontrolled drop of a Kelley HP dock leveler from any position is 3 inches.

Always return the dock leveler to its dock level (stored) position before allowing vehicle to leave dock. If vehicle pulls away from dock before dock leveler is stored, the lip will fall to its pendant position and the ramp will drop. In addition, failure to properly store the dock leveler may leave the leveler in a position below the level of the floor. This condition may result in unexpected drop of personnel or material handling equipment and result in death or serious injury.

Failure to follow these instructions could result in death or serious injury to operators and/or bystanders.

INTRODUCTION

The KELLEY HydraulicPlus™ dock leveler is designed to span and compensate for space and height differences between a loading dock and freight carrier to allow safe, efficient freight transfers.

The KELLEY HydraulicPlus™ dock leveler uses a push-button control to position the dock leveler. Pushing and holding the push-button operates a hydraulic cylinder to raise the ramp. Releasing the push-button allows the ramp to lower.

A mechanical linkage extends the dock leveler lip as the ramp lowers from its full raised position, and the leveler with its lip extended settles onto the vehicle bed forming a bridge.

After loading, pushing and holding the push-button raises the ramp, and the extended lip lowers to its stored position. Releasing the push-button (before the dock leveler reaches its highest position) allows the dock leveler to lower to its level, stored position.

With the dock leveler in its stored position, dock level support legs support the dock leveler ramp at a position level with the dock floor.

The dock level support legs will retract when the dock leveler lip is extended, allowing the ramp and lip to lower onto and follow the vehicle bed up and down as loads are moved across the dock leveler and vehicle.

OPERATION, continued

DOCK LEVELERS WITH STANDARD CONTROL BOX

1. Do not operate the dock leveler until a vehicle is in position against the dock bumpers.
2. Tell vehicle driver "Your vehicle must stay at the dock."
3. Chock or hitch vehicle.
4. If necessary, remove end loads with the ramp in the dock level (stored) position. See Fig. 25.

NOTE:

If the vehicle to be serviced is below dock level, see operating instructions for Below Dock Control (BDC) on page 27.

5. To extend the dock leveler lip into the vehicle:
 - 5.1 Push and hold the control button. The ramp will rise until it stops at its highest position. See Fig. 26.
 - 5.2 Release the control button when the ramp reaches its highest position.
 - 5.3 Ramp and lip will lower and lip will extend until the lip rests on the vehicle bed. See Fig. 27.

⚠ WARNING

Do not operate the dock leveler when anyone is on or in front of it.

Stay clear of the dock leveler when it is moving.

Do not drive on dock leveler or lip until it is fully extended and supported by the vehicle bed.

Never use a fork truck or other material handling equipment to lower the ramp and lip sections.

- 5.4 Proceed with loading or unloading.

Fig. 25

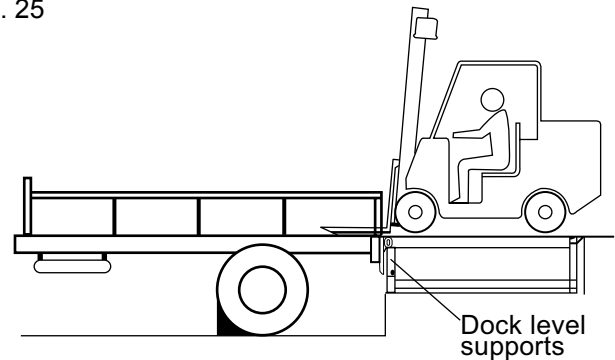


Fig. 26

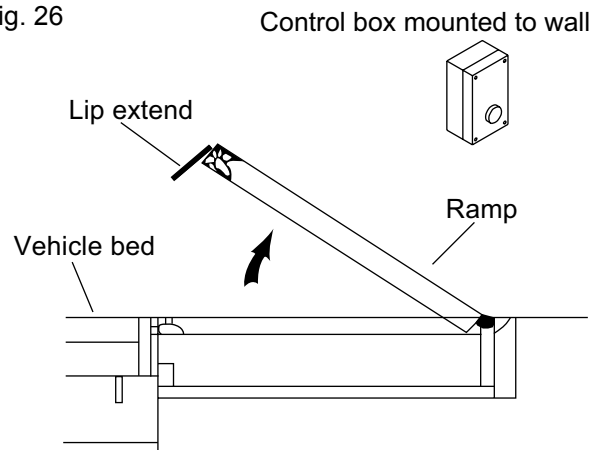
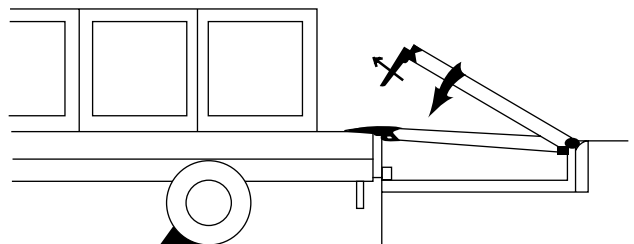


Fig. 27



DOCK LEVELERS WITH STANDARD CONTROL BOX

6. To return the dock leveler to the stored position when loading or unloading is complete, or to load end loads:
 - 6.1 Push and hold the control button. The ramp will rise and the lip will lower.
 - 6.2 Release the control button when the lip clears the vehicle bed (before reaching its highest position). The ramp will lower to the dock level (stored) position.
 - 6.3 Visually check that the lip is not extended or hung upon trailer. Ramp should be level with dock floor.
7. Unchock or release vehicle.
8. Tell vehicle driver "Your vehicle may now leave the dock."

BELOW DOCK CONTROL (BDC):

To lower the ramp without extending the lip for end loading below dock level:

1. Press the control button and hold it until the ramp is 6" to 12" above dock level. Release the button before the ramp reaches its highest position.
2. As ramp is lowering, walk onto the ramp and pull the BDC chain located in the middle of the ramp until it is fully extended. Hold the chain until the ramp passes below dock level. See Fig. 28.
3. Release the BDC chain.
4. Load or unload end loads.
5. When loading or unloading is complete, return the dock leveler to the stored position.
 - 5.1 Push and hold the control button until the ramp is at least 4" above dock level.
 - 5.2 Release the control button before the ramp reaches its highest position. The ramp will lower to its stored position.
 - 5.3 Visually check that the lip is not extended and the ramp is supported by both dock level supports before driving or walking on the ramp. Ramp should be level with dock floor. See Fig. 29.
6. Unchock or release vehicle.
7. Tell vehicle driver "Your vehicle may now leave the dock".

⚠ WARNING

Before allowing vehicle to leave always return the dock leveler to its dock level (stored) position with the dock level support legs supported by the front dock level supports and the lip hanging pendant. See Fig. 29. Failure to do so may leave the dock leveler in a position below the level of the dock floor. This condition may result in unexpected drop of personnel or material handling equipment and result in death or serious injury.

Fig. 28

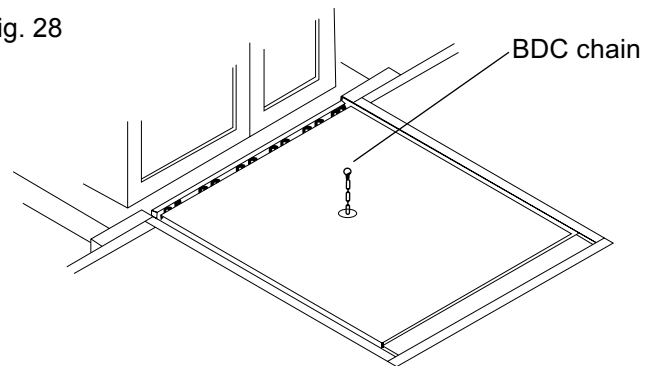
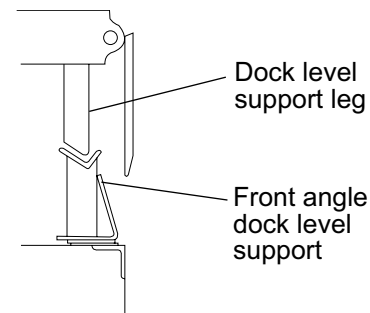


Fig. 29



OPERATION

DOCK LEVELERS WITH AUTO-RETURN TO DOCK OPTION

▲ WARNING

Before operating the dock leveler, read and follow Safety Practices on page 3.

Use of dock leveler restricted to trained operators. Follow procedures on placard posted near leveler

DO NOT USE THE DOCK LEVELER IF IT LOOKS BROKEN, OR DOES NOT SEEM TO WORK RIGHT. Tell your supervisor it needs repair right away.

Before pressing button, ensure lip avoids contact with vehicle sides and cargo. If lip does not lower to vehicle bed, reposition vehicle.

Stay clear of leveler unless lip is supported by vehicle bed or the leveler is stored at dock level. Visually check that the lip is supported by the vehicle bed or the ramp is supported by both dock level supports before driving or walking on the ramp. Unsupported dock levelers can lower unexpectedly.

Before chocking wheels or engaging vehicle restraint, dump air from air ride suspensions and set parking brakes.

Always be certain that the vehicle wheels are chocked, or that the vehicle is locked in place by a vehicle restraining device and the brakes are set before loading or unloading. Vehicles pulling away from the dock unexpectedly can cause uncontrolled drop of the dock leveler which can result in death or serious injury.

The maximum uncontrolled drop of a Kelley HP dock leveler from any position is 3 inches.

Always return the dock leveler to its dock level (stored) position before allowing vehicle to leave dock. If vehicle pulls away from dock before dock leveler is stored, the lip will fall to its pendant position and the ramp will drop. In addition, failure to properly store the dock leveler may leave the leveler in a position below the level of the floor. This condition may result in unexpected drop of personnel or material handling equipment and result in death or serious injury.

Failure to follow these instructions could result in death or serious injury to operators and/or bystanders.

INTRODUCTION

The KELLEY HydraulicPlus™ dock leveler is designed to span and compensate for space and height differences between a loading dock and freight carrier to allow safe, efficient freight transfers.

The KELLEY HydraulicPlus™ dock leveler uses a push-button control to position the dock leveler. Pushing and holding the push-button operates a hydraulic cylinder to raise the ramp. Releasing the switch allows the ramp to lower.

A mechanical linkage extends the dock leveler lip as the ramp lowers from its full raised position, and the leveler with its lip extended settles onto the vehicle bed forming a bridge.

After loading, moving and holding the push-button raises the ramp, and the extended lip lowers to its stored position. Releasing the switch (before the dock leveler reaches its highest position) allows the dock leveler to lower to its level, stored position.

With the dock leveler in its stored position, dock level support legs support the dock leveler ramp at a position level with the dock floor.

The dock level support legs will retract when the dock leveler lip is extended, allowing the ramp and lip to lower onto and follow the vehicle bed up and down as loads are moved across the dock leveler and vehicle.

DOCK LEVELERS WITH AUTO-RETURN TO DOCK OPTION

1. Do not operate the dock leveler until a vehicle is in position against the dock bumpers.
2. Tell vehicle driver "Your vehicle must stay at the dock."
3. Chock or hitch vehicle.
4. If necessary, remove end loads with the ramp in the dock level (stored) position. See Fig. 30.

NOTE:

If the vehicle to be serviced is below dock level, see operating instructions for Below Dock Control (BDC) on page 30.

5. To extend the dock leveler lip into the vehicle:
 - 5.1 Turn the "ON/OFF" switch to the "ON" position. See Fig. 31.
 - 5.2 Push and hold the "RAISE" button. The ramp will rise until it stops at its highest position. See Fig. 31.
 - 5.3 Release the "RAISE" button. Ramp will lower and lip will extend until the lip rests on the vehicle bed. See Fig. 32.

⚠ WARNING

Do not operate the dock leveler when anyone is on or in front of it.

Stay clear of the dock leveler when it is moving.

Do not drive on dock leveler or lip until it is fully extended and supported by the vehicle bed.

Never use a fork truck or other material handling equipment to lower the ramp and lip sections.

- 5.4 Proceed with loading or unloading.

Fig. 30

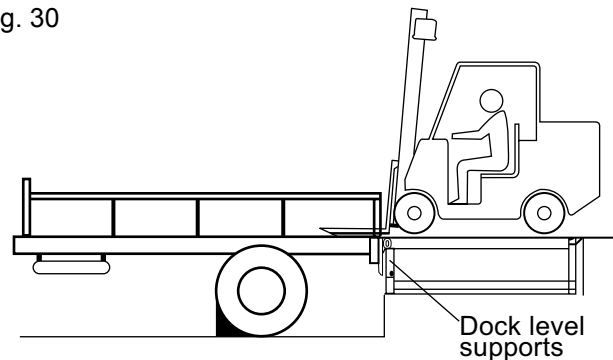


Fig. 31

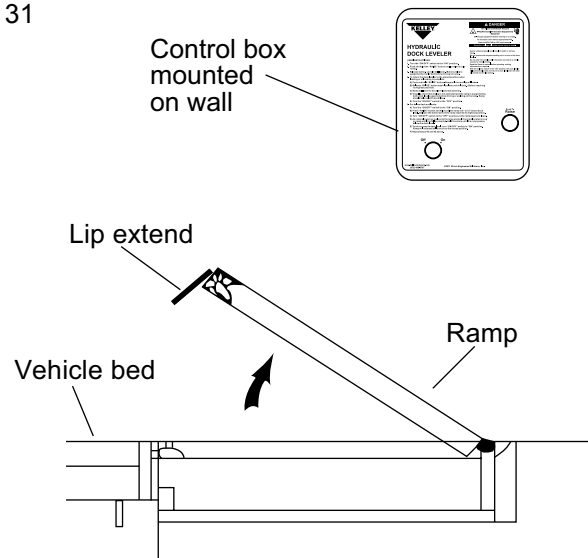
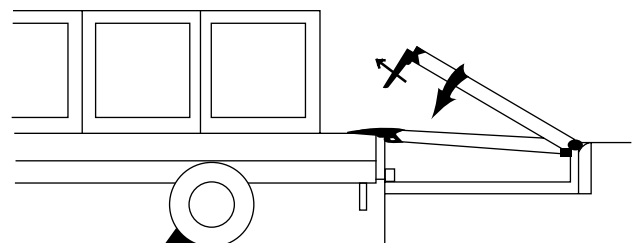


Fig. 32



OPERATION, continued

DOCK LEVELERS WITH AUTO-RETURN TO DOCK OPTION

6. To return the dock leveler to the stored position when loading or unloading is complete, or to load end loads:
 - 6.1 Turn the “ON/OFF” switch to the “ON” position.
 - 6.2 Push and hold the “RAISE” button. The ramp will rise and the lip will lower.
 - 6.3 Release the “RAISE” button when the lip clears the vehicle bed (before reaching its highest position). The ramp will lower to the dock level (stored) position.
 - 6.4 Visually check that the lip is not extended and the ramp is supported by both dock level supports before driving or walking on the ramp. Ramp should be level with dock floor.
 - 6.5 Turn the “ON/OFF” switch to the “OFF” position.
7. Unchock or release vehicle.
8. Tell vehicle driver “Your vehicle may now leave the dock.”

BELOW DOCK CONTROL (BDC) WITH ARTD:

To lower the ramp without extending the lip for end loading below dock level:

1. Turn the “ON/OFF” switch to the “ON” position.
2. Press the “RAISE” button until the ramp is 6" to 12" above dock level. Release the button before the ramp reaches its highest position.
3. Turn the “ON/OFF” switch to the “OFF” position as the ramp begins to lower.
4. As ramp is lowering, walk onto the ramp and pull the BDC chain located in the middle of the ramp until it is fully extended. Hold the chain until the ramp passes below dock level. See Fig. 33.
5. Release the BDC chain.
6. Load or unload end loads.
7. When loading or unloading is complete, return the dock leveler to the stored position. Turn the “ON/OFF” switch to the “ON” position. The dock leveler will automatically return to the stored position.
8. Visually check that the lip is not extended and the ramp is supported by both dock level supports before driving or walking on the ramp. Ramp should be level with dock floor. See Fig. 34.
9. Turn the “ON/OFF” switch to the “OFF” position.

⚠ WARNING

Before allowing vehicle to leave always return the dock leveler to its dock level (stored) position with the dock level support legs supported by the front dock level supports. See Fig. 34. Failure to do so may leave the dock leveler in a position below the level of the dock floor. This condition may result in unexpected drop of personnel or material handling equipment and result in death or serious injury.

Fig. 33

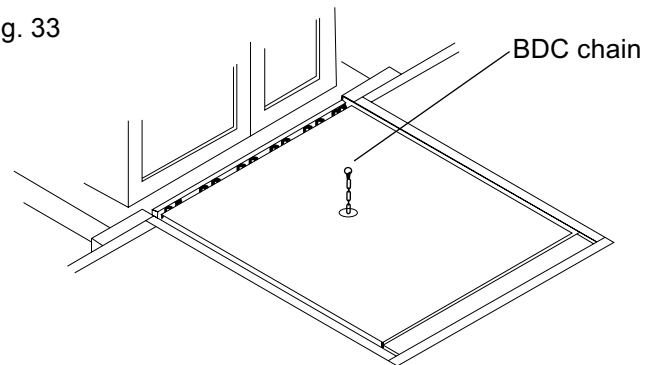
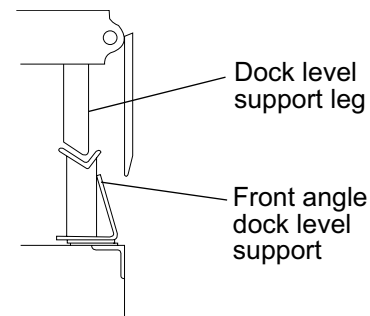


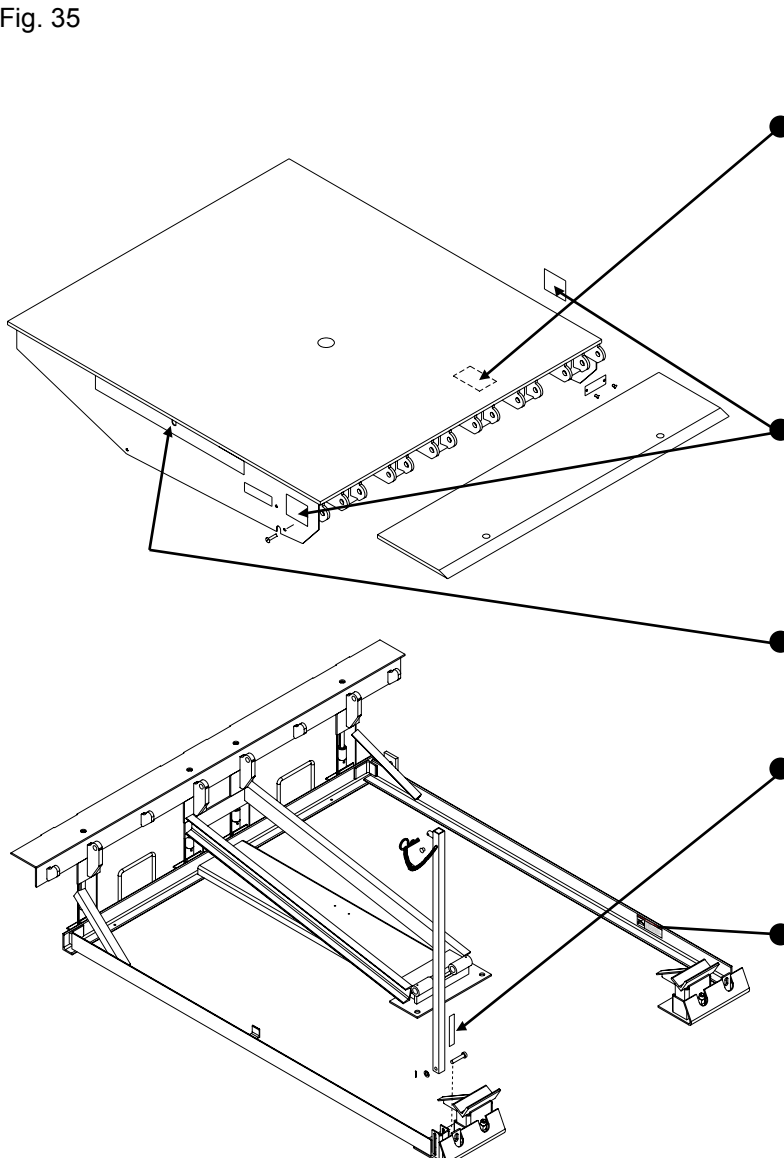
Fig. 34



PLANNED MAINTENANCE

Every 90 days (quarterly) inspect all safety labels and tags to ensure they are on the dock leveler and are easily legible. If any are missing or require replacement, please call your local Kelley distributor.

Fig. 35



700-136

"LIP-UP" LOCK

6008485 (x2)

138-837 (x2)

921-074

921-070

6004006 (STANDARD)

6004011 (WITH ARTD)

WARNING AND OPERATION PLACARD (MOUNTED ON WALL NEAR LEVELER)

SAFETY INSTRUCTIONS

CRUSH HAZARD

DO NOT ENTER PIT

OPERATIONS

WARNING AND OPERATION PLACARD (MOUNTED ON WALL NEAR LEVELER)

MAINTENANCE AND LUBRICATION

⚠ WARNING

Before servicing the dock leveler, read and follow the Safety Practices on page 3 and the Operation section of this manual.

Place barricades on the dock floor around the dock leveler pit and in the driveway in front of the pit while installing, maintaining or repairing the dock leveler.

⚠ DANGER

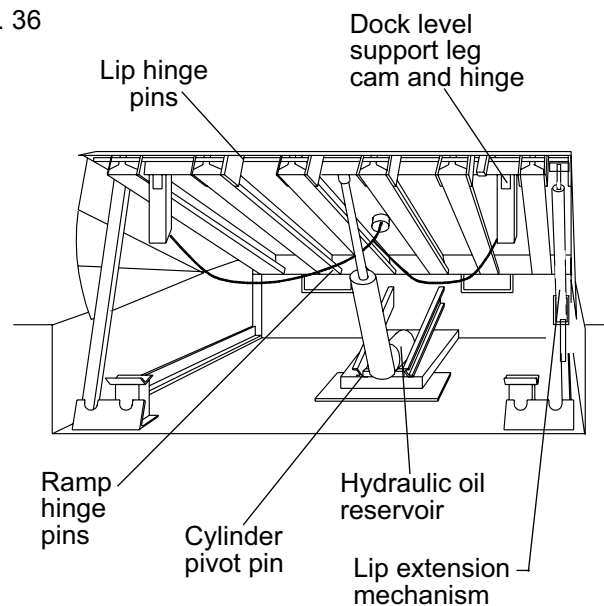
Be certain, before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler, that: 1) THE MAINTENANCE STRUT AND LIP LOCK ARE SECURELY IN PLACE [see Fig. 38 on page 34] and 2) the power is disconnected and properly tagged or locked off.

NOTICE

Use only lubricants shown. Improper lubrication or adjustments may cause operational problems.

Every 90 days inspect dock bumpers. Four inches (4") of bumper protection is required. Worn, torn, loose or missing bumpers must be replaced.

Fig. 36



MAINTENANCE AND LUBRICATION CHART

	Dock Level Support Leg Cam & Pivot Pins	Lip & Ramp Hinge Pins	Lip Extension Mechanism	Cylinder Pivot Pins	Dock Leveler Pit	Rear Support Legs
Lubrication	Every 90 Days SAE 30 On Pivot Pins & Grease Cam	Every 90 Days SAE 30	Every 90 Days SAE 30 Grease front push bar	Every 90 Days SAE 30	Not Required	Not Required
Cleaning	As Required To Remove Debris	As Required To Remove Debris	As Required To Remove Debris	As Required To Remove Debris	Every 90 Days or As Required To Remove Debris	As Required To Remove Debris

Check all labels every 90 days. See pages 38-58 for location and part numbers.
Replace if required.





Every 90 days visually inspect all welds under the leveler for fatigue or failure, particularly the lip plate hinge and ramp beams and front hinge lugs.

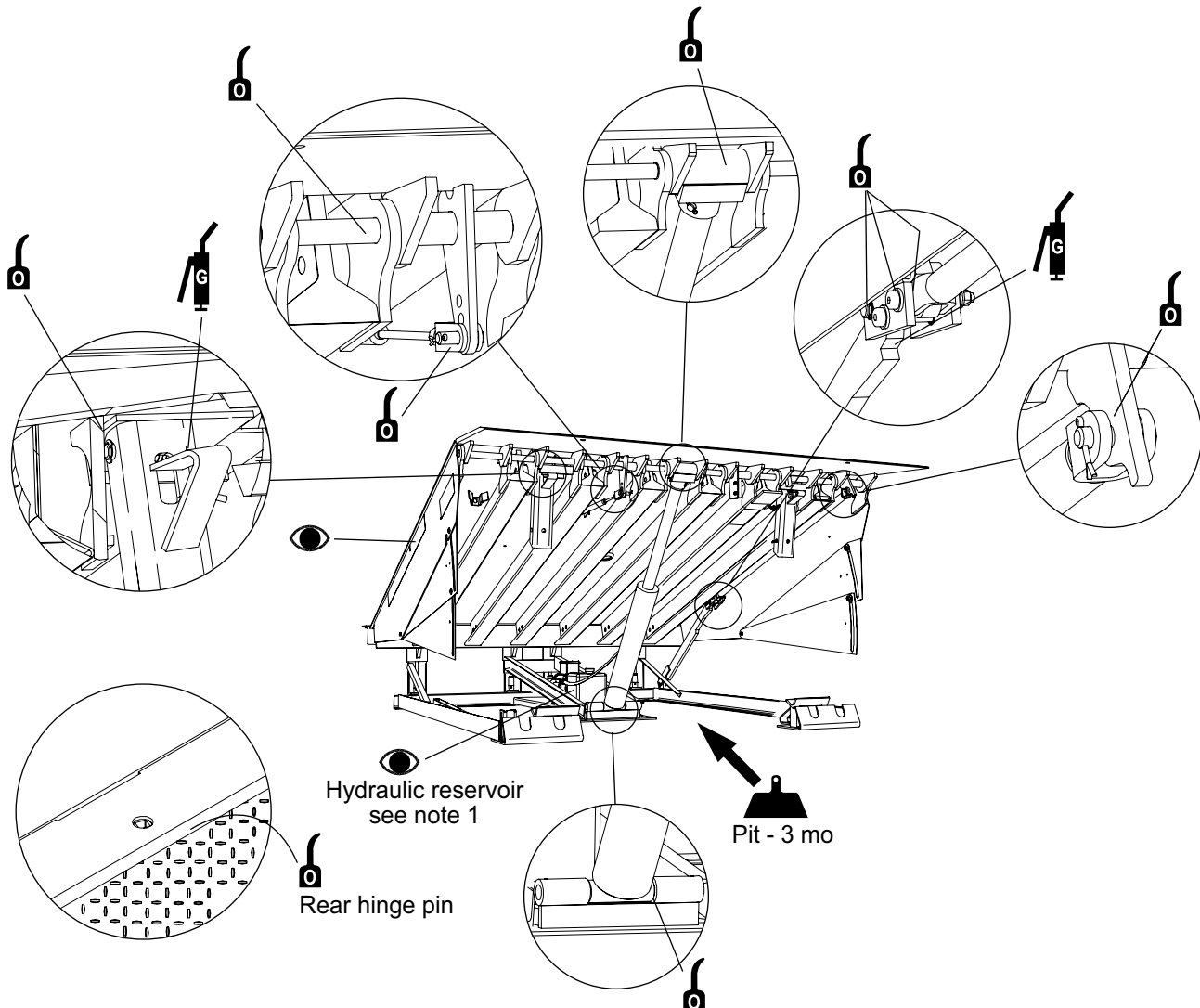
* Acceptable Hydraulic Oils:

Mobil Aero HFA (49011)
Exxon Univis Grade JI3
Texaco Aircraft Oil #1554
U.S. Oil Co., Inc. #ZFI-5606 (Low Temp.)

MAINTENANCE AND LUBRICATION, continued

Fig. 37

Legend	
Symbol	Description
	Lubricate - Oil Light Oil - SAE 30
	Lubricate - Grease Molybdenum Disulfide NLGI #2
	Cleaning (Location - Frequency)
	Visually Inspect (Replace Damaged Or Worn)



TROUBLESHOOTING GUIDE

⚠ WARNING

Before servicing the dock leveler, read and follow the Safety Practices on page 3 and the Operation section of this manual.

⚠ DANGER

Be certain, before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler, that: 1) THE MAINTENANCE STRUT AND LIP LOCK ARE SECURELY IN PLACE, [see Fig. 38] and 2) the power is disconnected and properly tagged or locked off.

RAMP FAILS TO RAISE:

1. If motor fails to run:
 - 1.1 Check that the motor cord is tightly plugged into the pit receptacle.
 - 1.2 Check for electrical power to the pit receptacle and control box.

⚠ WARNING

Before doing any electrical work, make certain the power is disconnected and properly tagged or locked off.

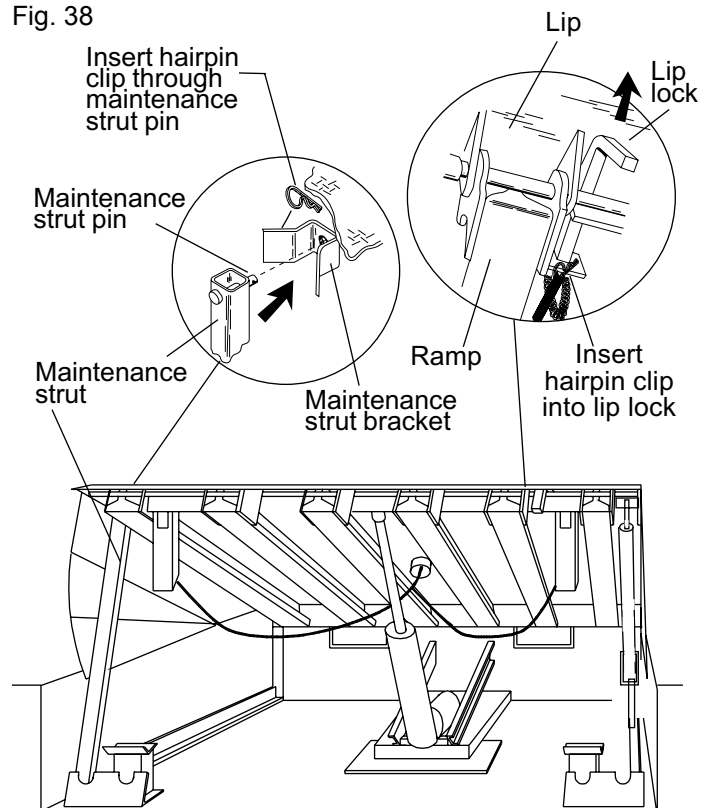
- 1.3 Check for loose wires in control box.
- 1.4 If problem can not be found, contact a qualified electrician.

RAMP FAILS TO RAISE:

(Dock levelers with auto-return to dock option)

1. If motor fails to run:
 - 1.1 Check that the motor cord and return to dock switch cords are tightly plugged into the pit receptacle.
 - 1.2 Check for electrical power to the pit receptacle and control box.
 - 1.3 Check "ON/OFF" switch on control box.

Fig. 38



TROUBLESHOOTING GUIDE, continued

⚠ WARNING

Before doing any electrical work, make certain the power is disconnected and properly tagged or locked off.

- 1.2 Check for loose wires in control box.
- 1.3 Check fuses. Replace if required.
- 1.4 If problem can not be found, contact a qualified electrician.
2. If motor runs:
 - 2.1 Check hydraulic oil level in reservoir. Add if required. See Fig. 39 for proper levels and types of oil to be used.
 - 2.2 Check for loose hydraulic hose fittings or broken hoses. Repair or replace as required.
 - 2.3 Check for binding in ramp cylinder pivots.
 - 2.4 Check hydraulic bypass pressure and adjust as required. See Fig. 40. (Turn in to increase - turn out to decrease) Replace cap and tighten when finished.

LIP FAILS TO EXTEND:

1. Check to make sure that the lip extension mechanism is not bent or binding. See Fig. 41.
2. Check to make sure that the lip extension mechanism is lubricated properly. Lubricate as required.
3. Make sure all pins and pin retainers are in place and in good condition.

LIP EXTENDS BUT FAILS TO STAY IN EXTENDED POSITION:

1. Check to see that the lip extension mechanism center bolt is straight and free to rotate. See Fig. 41.
2. Check to see that the lip extends far enough to allow the links and connecting rod to align and then reach an "over center" position.

Fig. 39

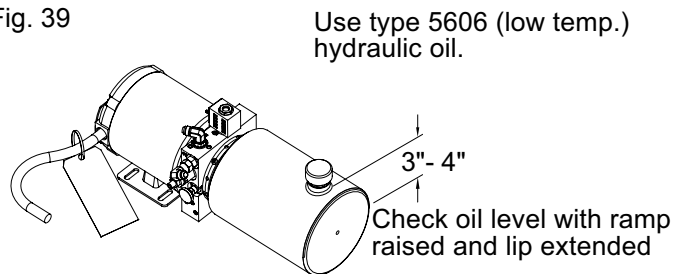


Fig. 40

Set bypass pressure at 2000 PSIG with ramp raised and lip extended.

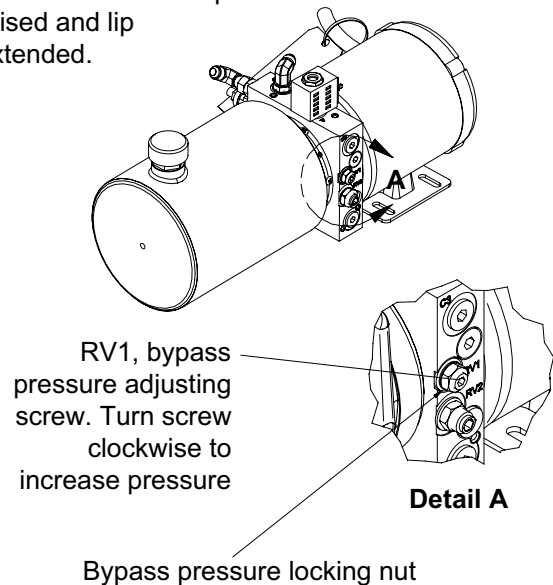
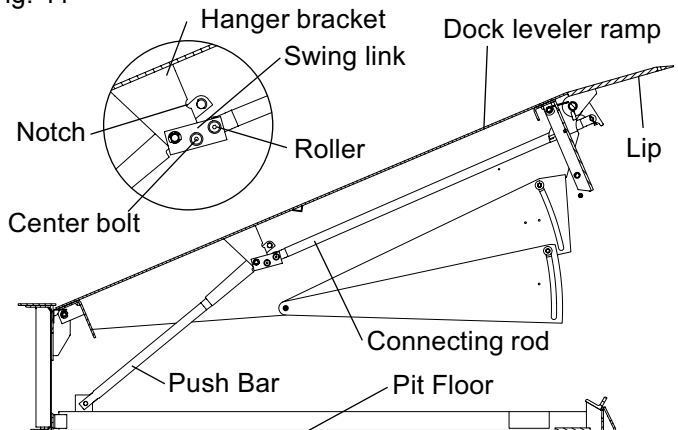


Fig. 41

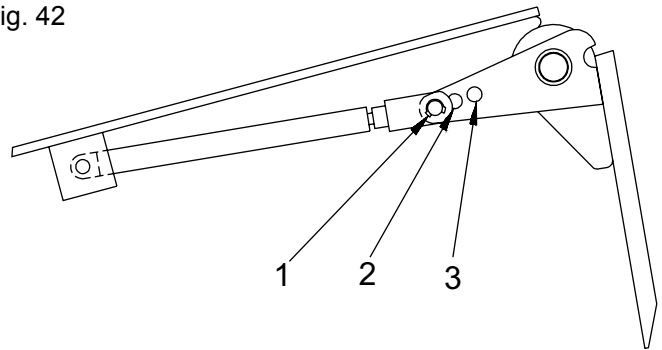


TROUBLESHOOTING GUIDE, continued

LIP FAILS TO LOWER TO THE STORED POSITION WHEN THE DOCK LEVELER IS RAISED FROM VEHICLE:

1. Check the lip extension mechanism for free movement. See Fig. 41.
2. Inspect the lip extension mechanism for bent parts. Be sure all parts are clean, lubricated and have free movement. See Fig. 41.
3. Make sure all pins are in correct position and in good condition. See Fig. 42.

Fig. 42



RAMP WILL NOT RETURN TO STORED POSITION FROM FULL BELOW DOCK POSITION:

(Applies to dock levelers with optional auto-return to dock feature only)

NOTE:

Ramp will not raise if a lift vehicle or other heavy material is left on top of the ramp.

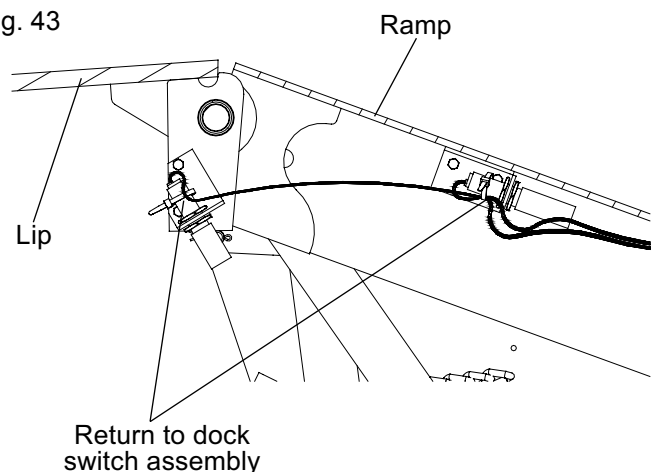
1. Check to be sure the control box switch is in the "ON" position.
2. Check for electrical power to control box.
3. Make sure that the return to dock switch plug is tight in the receptacle in the rear pit wall.
4. Check to assure that the dock leveler lip is falling to the full pendant position. Lip should be 1/2" to 1-1/2" from the face of the dock when the ramp is in the full below dock position. The return to dock switch is connected to the lip and will not operate if the lip remains in the full or partially extended position.
5. Check return to dock switch and mounting bracket. If hardware is loose or missing, the switches can move on the brackets. Switch contacts should be closed when dock leveler is full below dock and lip is pendant. See wiring diagrams on pages 15 through 24. See Fig. 43.

NOTE:

Return to dock level switch should turn off pump/motor when ramp reaches approximately 4" to 6" above dock level.

LIP SIZE	LIP CAPACITY		
	25K	30K & 35K	40K, 45K & 50K
6 FT-16"	HOLE 3	HOLE 2	HOLE 1
6 FT-18"	HOLE 2	HOLE 1	HOLE 1
6 FT-20"	HOLE 1	HOLE 1	HOLE 1
6-1/2 FT-16"	HOLE 2	HOLE 1	HOLE 1
6-1/2 FT-18"	HOLE 1	HOLE 1	HOLE 1
6-1/2 FT-20"	HOLE 1	HOLE 1	HOLE 1
7 FT-16"	HOLE 2	HOLE 1	HOLE 1
7 FT-18"	HOLE 1	HOLE 1	HOLE 1
7 FT-20"	HOLE 1	HOLE 1	HOLE 1

Fig. 43



TROUBLESHOOTING GUIDE, continued

RAMP LOCK DURING DOWNWARD TRAVEL:

1. Check for debris in pit which may be restricting downward travel.
2. Downward speed of the ramp is controlled by a needle valve located in the pump/motor. Loosen locking nut and turn valve in (clockwise) to eliminate locking (reduce descent speed). Tighten locking nut. See Fig. 44. See chart on page 29 for amount of time dock leveler should move from its fully raised position to full below dock position.

NOTE:

Do not adjust needle valve more than 1/4 turn. Test operation. Readjust turning valve a maximum of 1/4 turn between testing. DURING TESTING DO NOT TURN MORE THAN FOUR (4) 1/4 TURNS.

DOCK LEVEL SUPPORTS WILL NOT RETRACT FOR BELOW DOCK OPERATION:

1. Check for broken chain to dock level support legs. See Fig. 45.
2. Check for binding of dock level control chain. See Fig. 45.
3. Check for binding in dock level support legs.

DOCK LEVEL SUPPORT LEGS WILL NOT SWING FULLY FORWARD:

NOTE:

LIP MUST BE PENDANT.

1. Check for binding or debris which may be restricting leg.
2. Check below dock control chains to assure chain has enough slack to allow leg to swing forward. Adjust as required. See Fig. 45.

Fig. 44

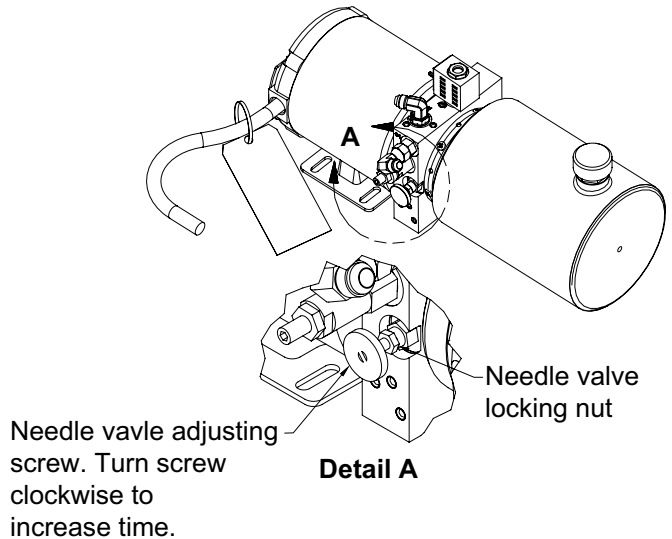
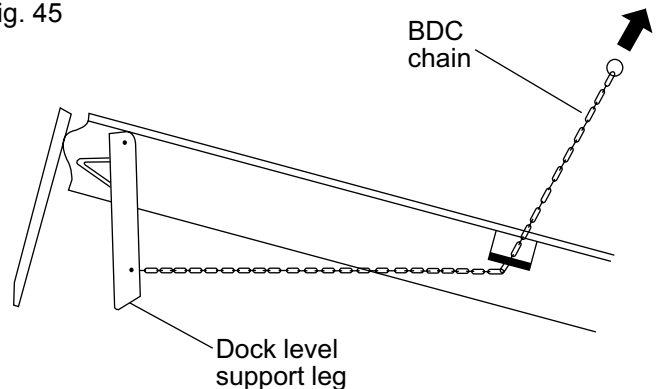
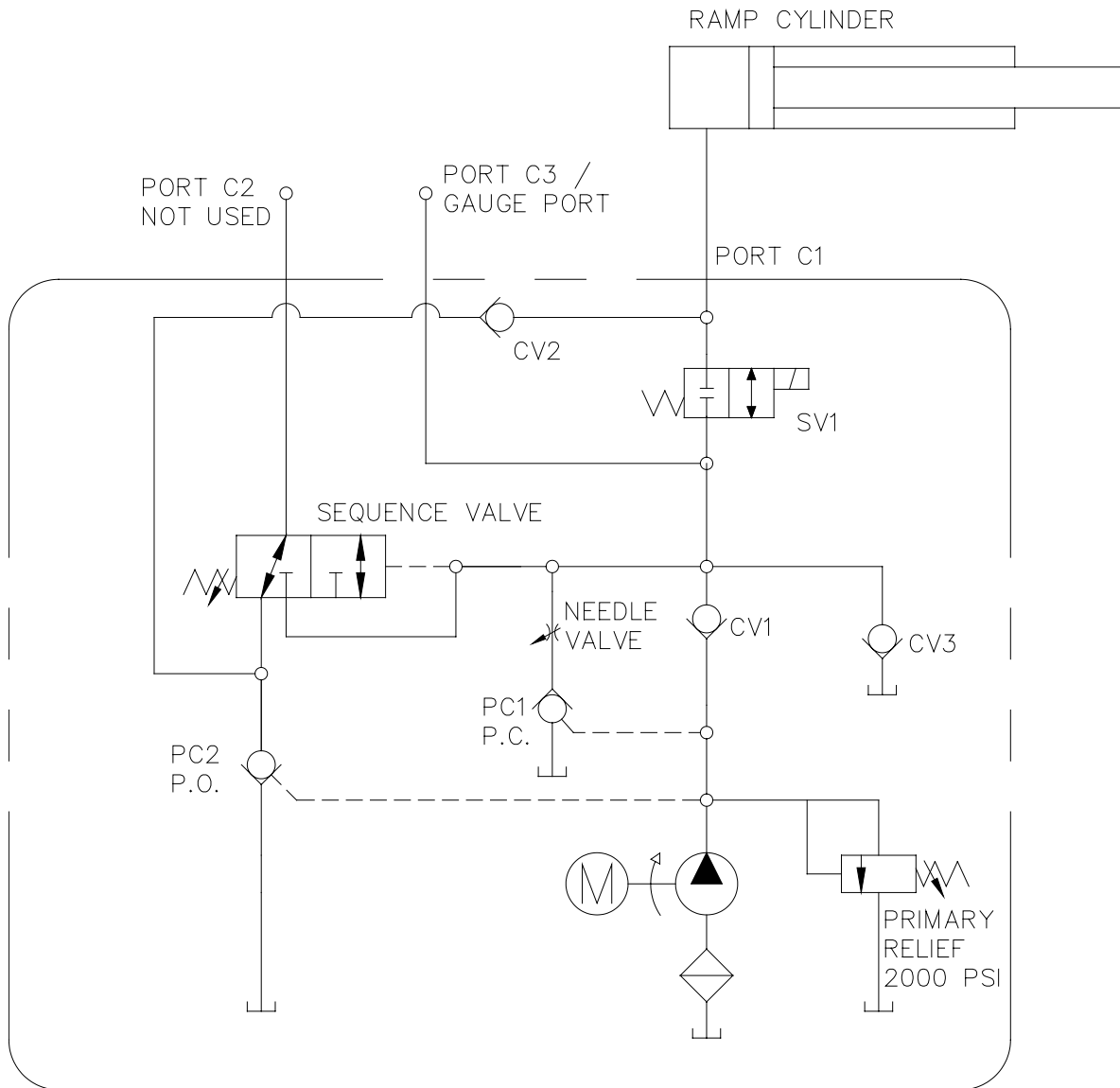


Fig. 45



HYDRAULIC DIAGRAM



PARTS REPLACEMENT

CONTROL BOX TRANSFORMER

Fig. 46

1. When replacing the transformer make sure jumper wires are installed per wiring diagrams, for appropriate voltage.

⚠ DANGER

Be certain, before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler, that: 1) THE MAINTENANCE STRUT AND LIP LOCK ARE SECURELY IN PLACE, [see Fig. 38] and 2) the power is disconnected and properly tagged or locked off.

After replacing hose and/or motor pump assembly, run pump/motor at least four (4) times with the maintenance strut and lip lock in place. This is required to remove air from the system. Check oil level and add oil if required. Use extreme care when removing maintenance strut and lip lock. Ramp and lip could move down rapidly if air remains in the system. Run dock leveler four (4) times through the complete operating cycle before placing dock leveler into service.

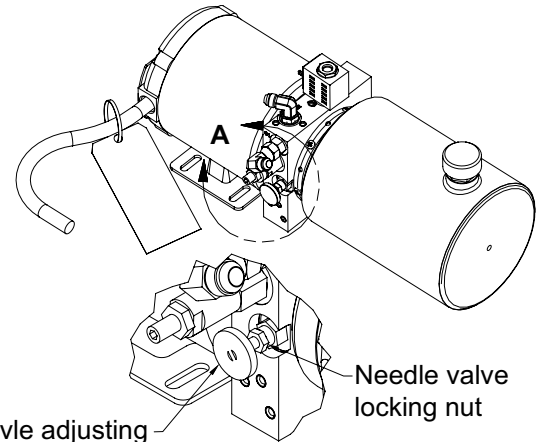
HYDRAULIC OIL HOSES

1. When removing hydraulic oil hose(s) remove from motor/pump assembly first then from cylinder assembly.
2. When installing hydraulic oil hose(s) attached to cylinder first, making sure O-ring is in place, then attach to pump/motor assembly.

MOTOR/PUMP ASSEMBLY

1. To set the downward speed of the ramp:
 - 1.1 Loosen needle valve locking nut. See Fig. 46.
 - 1.2 Turn valve in 1/4 turn increments only. "IN" clockwise will increase time, "OUT" counterclockwise will decrease time. Tighten needle valve locking nut.
 - 1.3 Raise ramp and lip.
 - 1.4 Time ramp float down time. Ramp should lower to below dock stop per chart at right.
 - 1.5 Repeat 1.1 through 1.4 until correct.

Adjust valve "OUT" in 1/4 turn increments only to achieve proper lowering time.



Needle valve adjusting screw. Turn screw clockwise to increase time.

Detail A

length of dock leveler	pit size	seconds \pm 1 second fully raised to full below dock
6' & 8'	19"	12
10'	23"	18

PARTS LIST

1. To determine the correct replacement parts to order for your adjustable dock leveler, you will need to know its model number, pit size, and capacity.
 2. The model number and capacity can be found on the dock leveler product label located on the frame leg. The meaning of each digit in the model number is shown in Fig. 47.
- Example: HP 6x8_
- 6' wide
- 8' long
3. To determine the nominal size of your dock leveler, see Fig. 48.

Fig. 47

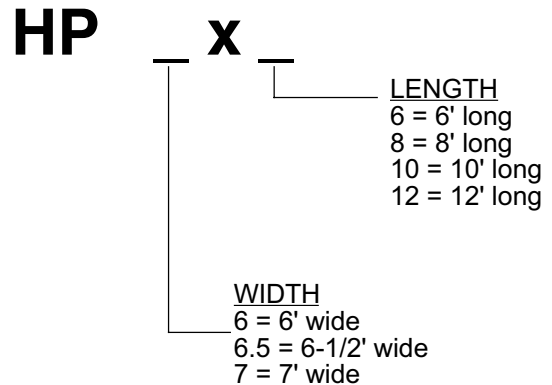
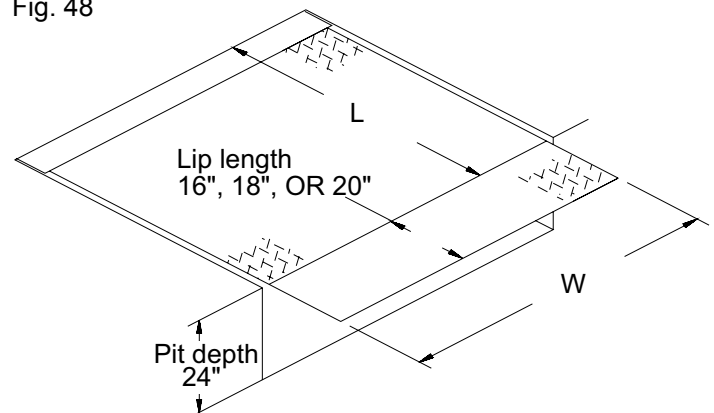


Fig. 48



⚠ WARNING

To ensure proper function, durability and safety of the product, only replacement parts that do not interfere with the safe, normal operation of the product must be used. Incorporation of replacement parts or modifications that weaken the structural integrity of the product, or in any way alter the product from its normal working condition at the time of purchase from Kelley could result in product malfunction, breakdown, premature wear, death or serious injury.

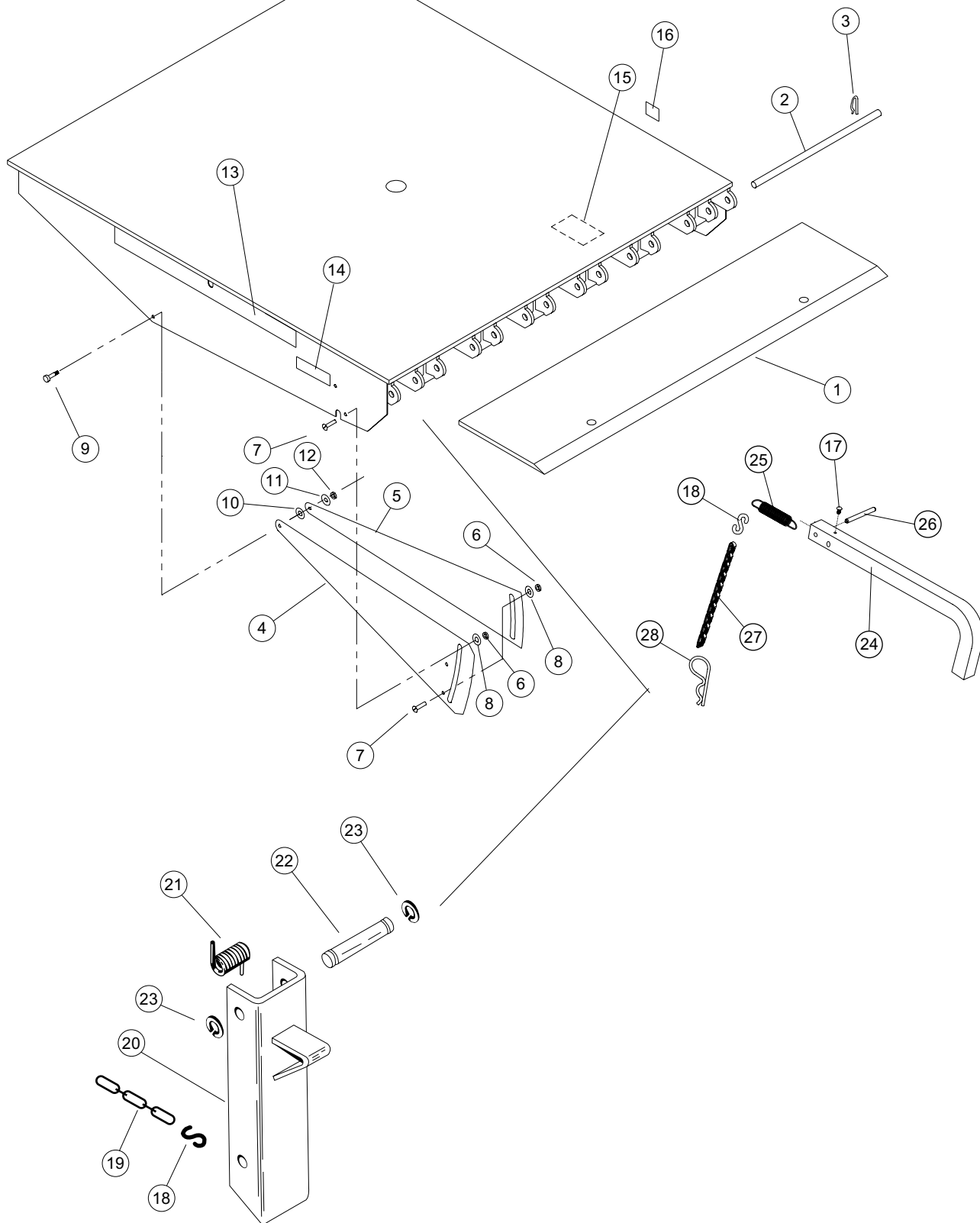
NOTE:

Kelley DISCLAIMS all liability for failure to comply with this warning. WARRANTIES relating to MERCHANTABILITY and/or FITNESS FOR INTENDED USE are specifically DISCLAIMED in the event the purchaser fails to comply with this warning.

NOMINAL SIZE WxL (FT.)	W (IN.)	L (IN.)
6x6	72	63
6x8	72	87
6x10	72	111
6.5x6	78	63
6.5x8	78	87
6.5x10	78	111
7x6	83	63
7x8	83	87
7x10	83	111

PARTS LIST, continued **MODEL HP RAMP, LIP, AND TOE GUARD ASSEMBLIES**

Fig. 49



PARTS LIST, continued

MODEL HP RAMP, LIP, AND TOE GUARD ASSEMBLIES

Item	Quantity	Description	Part Number
1	1	LIP, 6FT WIDE, 30K AND 35K CAPACITY	
		16" X 6' W. 4 DEGREE BEND	711-858
		16" X 6' W. 7 DEGREE BEND	711-857
		18" X 6' W. 4 DEGREE BEND	711-860
		18" X 6' W. 7 DEGREE BEND	711-859
		20" X 6' W. 4 DEGREE BEND	711-862
		20" X 6' W. 7 DEGREE BEND	711-861
		LIP, 6-1/2FT WIDE, 30K AND 35K CAPACITY	
		16" X 6-1/2' W. 4 DEGREE BEND	711-876
		16" X 6-1/2' W. 7 DEGREE BEND	711-875
		18" X 6-1/2' W. 4 DEGREE BEND	711-878
		18" X 6-1/2' W. 7 DEGREE BEND	711-877
		20" X 6-1/2' W. 4 DEGREE BEND	711-880
		20" X 6-1/2' W. 7 DEGREE BEND	711-879
		LIP, 7FT WIDE, 30K AND 35K CAPACITY	
		16" X 7' W. 4 DEGREE BEND	711-894
		16" X 7' W. 7 DEGREE BEND	711-893
		18" X 7' W. 4 DEGREE BEND	711-896
		18" X 7' W. 7 DEGREE BEND	711-895
		20" X 7' W. 4 DEGREE BEND	711-898
		20" X 7' W. 7 DEGREE BEND	711-897
		LIP, 6FT WIDE- 40K, 45K, AND 50K CAPACITY	
		16" X 6' W. 4 DEGREE BEND	711-864
		16" X 6' W. 7 DEGREE BEND	711-863
		18" X 6' W. 4 DEGREE BEND	711-866
		18" X 6' W. 7 DEGREE BEND	711-865
		20" X 6' W. 4 DEGREE BEND	711-868
		20" X 6' W. 7 DEGREE BEND	711-867
		LIP, 6-1/2FT WIDE- 40K, 45K, AND 50K CAPACITY	
		16" X 6-1/2' W. 4 DEGREE BEND	711-882
		16" X 6-1/2' W. 7 DEGREE BEND	711-881
		18" X 6-1/2' W. 4 DEGREE BEND	711-884
		18" X 6-1/2' W. 7 DEGREE BEND	711-883
		20" X 6-1/2' W. 4 DEGREE BEND	711-886
		20" X 6-1/2' W. 7 DEGREE BEND	711-885
		LIP, 7FT WIDE- 40K, 45K, AND 50K CAPACITY	
		16" X 7' W. 4 DEGREE BEND	711-900
		16" X 7' W. 7 DEGREE BEND	711-899
		18" X 7' W. 4 DEGREE BEND	711-902
		18" X 7' W. 7 DEGREE BEND	711-901
		20" X 7' W. 4 DEGREE BEND	711-904
		20" X 7' W. 7 DEGREE BEND	711-903
2	2	LIP SHAFT	
		6' W. DOCK LEVELER	712-957
		6-1/2' W. DOCK LEVELER	712-958
		7' W. DOCK LEVELER	712-959
3	1	RETAINER. SHAFT - HINGE PIN	035-451

PARTS LIST, continued

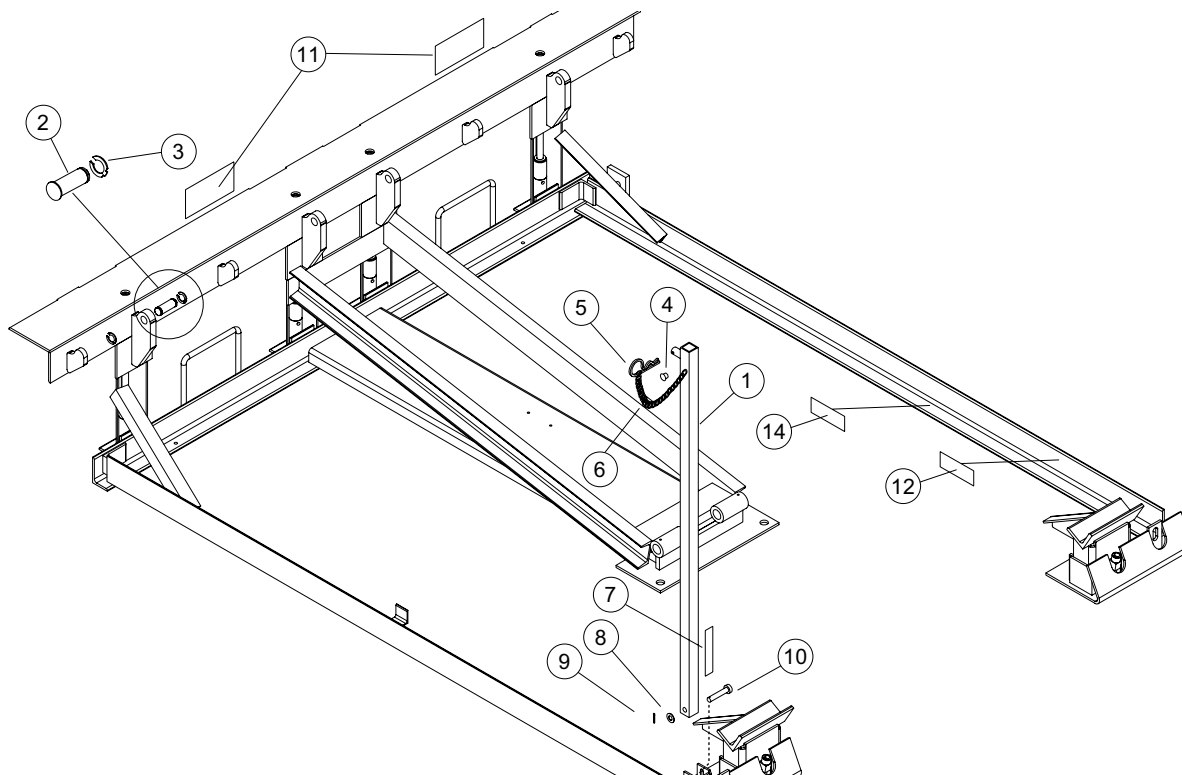
MODEL HP RAMP, LIP, AND TOE GUARD ASSEMBLIES

Item	Quantity	Description	Part Number
4	2	TOE GUARD, MIDDLE SLIDING - 19" PIT 6' LG. DOCK LEVELER 8' LG. DOCK LEVELER TOE GUARD, MIDDLE SLIDING - 23" PIT 10' LG. DOCK LEVELER	155-554 155-555 155-557
5	2	TOE GUARD, BOTTOM SLIDING - 19" PIT 6' LG. DOCK LEVELER 8' LG. DOCK LEVELER TOE GUARD, BOTTOM SLIDING - 23" PIT 10' LG. DOCK LEVELER	155-554 155-556 155-557
6	A/R	NUT, LOCK, 3/8-16	000-253
7	A/R	SCR., TRUSS HD. 3/8-16 X 1	131-477
8	A/R	SPACER, TOE GUARD	152-878
9	2	SCREW, SHOULDER	131-455
10	A/R	WASHER, 3/8" FLAT	000-214
11	2	WASHER, 5/16" FLAT	000-055
12	2	NUT, 5/16-18 NYLOC	131-456
13	2	SAFETY DECAL	138-837
14	2	WARNING LABEL	6008485
15	1	LIP LOCK DECAL	700-136
16	1	DECAL, KELLEY®	921-140
17	1	SCREW, DRIVE #6 X 1/4" LG.	000-518
18	3	"S" HOOK	000-181
19	1	CHAIN, BELOW DOCK CONTROL — 6' LG. DOCK LEVELERS CHAIN, BELOW DOCK CONTROL — 8' LG. DOCK LEVELERS CHAIN, BELOW DOCK CONTROL — ALL 10' LG. DOCK LEVELERS	6012661 6003453 6003452
20	2	SUPPORT, DOCK LEVEL	708-780
21	2	SPRING, TORSION	030-195
22	2	PIN, GROOVED 5/8" DIA. X 3-1/2	035-338
23	4	KLIPRING, EXT. 5/8"	049-060
24	1	LEVER, LIP LOCK	155-150
25	1	SPRING, EXTENSION	700-135
26	1	PIN, ROLL 3/16" DIA. X 2"	035-149
27	1	6" LG. SASH CHAIN	6001950
28	1	PIN, COTTER - HAIR	035-200

PARTS LIST, continued

SUBFRAME AND MAINTENANCE STRUT ASSEMBLIES

Fig. 50

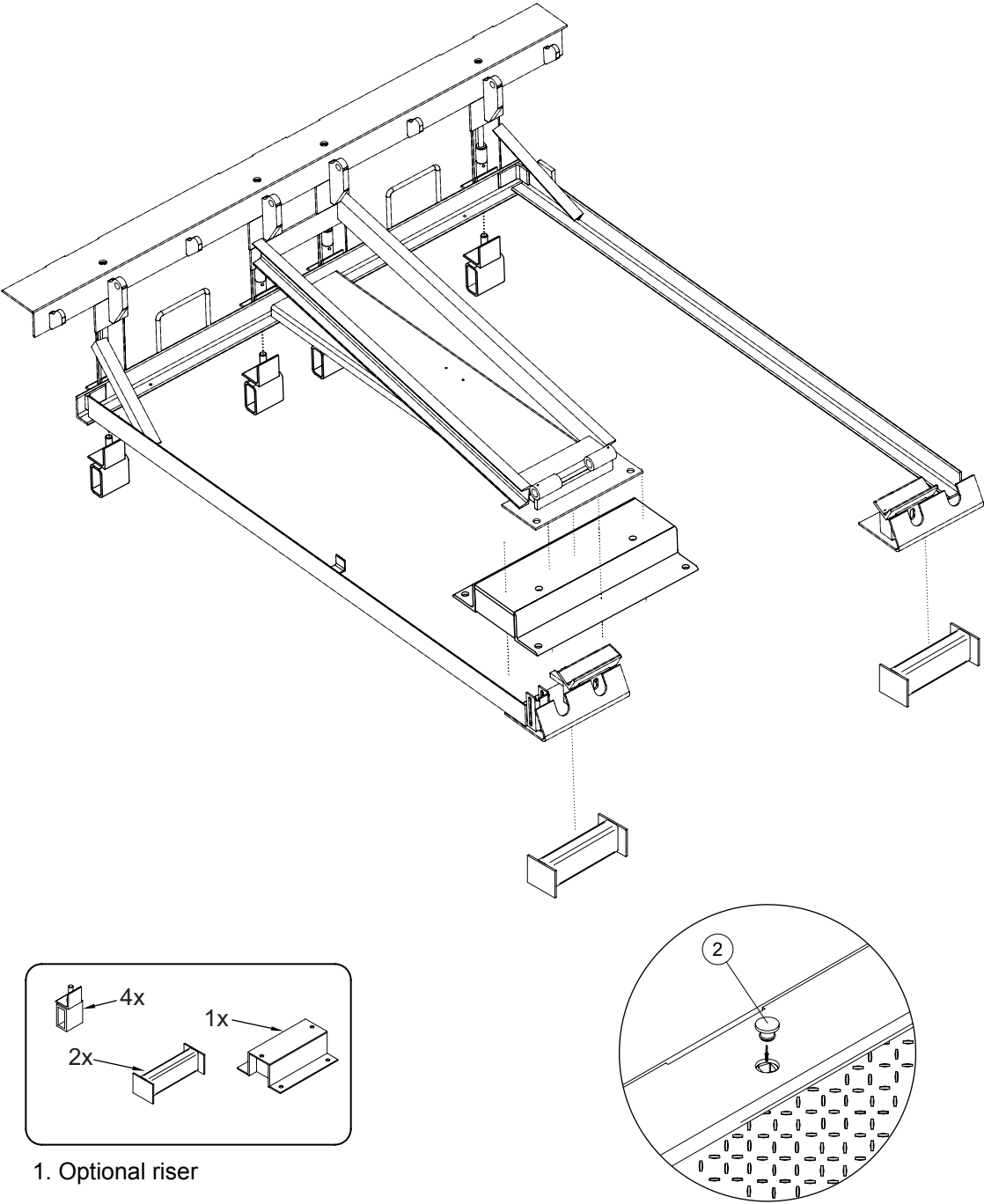


Item	Quantity	Description	Part Number
1	1	MAINTENANCE POST, 6' LG. DECK WITH 20" BACKFRAME MAINTENANCE POST, 6' LG. DECK WITH 24" BACKFRAME MAINTENANCE POST, 8' LG. DECK WITH 20" BACKFRAME MAINTENANCE POST, 8' LG. DECK WITH 24" BACKFRAME MAINTENANCE POST, 10' LG. DECK WITH 24" BACKFRAME	713-308 6013622 708-882 6013623 713-345
2	4	PIN, HINGE 6', 8', AND 10' LG. MODELS	035-450
3	4	RETAINER, SHAFT - HINGE PIN	035-451
4*	1	SCREW, DRIVE	000-518
5*	1	PIN, COTTER - HAIR	035-200
6*	1	CHAIN, SASH	032-195
7*	1	DECAL, MAINT. STRUT	921-074
8	1	WASHER, FLAT 3/8	000-214
9	1	PIN, COTTER	035-036
10	1	PIN, CLEVIS	035-051
11	2	DECAL, FORK LOCATION	138-604
12	2	DANGER LABEL (ENTERING PIT)	921-070
13	1	DOCUMENTATION KIT, HYDRAULIC STANDARD DOCUMENTATION KIT, HYDRAULIC W/OPTIONAL ARTD MANUAL, HYDRAULICPLUS™ PLACARD, INSTRUCTIONS W/STANDARD CONTROL BOX PLACARD, INSTRUCTIONS WITH OPTIONAL ARTD	184-354 184-355 6004750 6004006 6004011
14	1	SERIAL TAG	6009761

*Included in item 1.

PARTS LIST, continued **OPTIONAL SUBFRAME RISER KIT**

Fig. 51



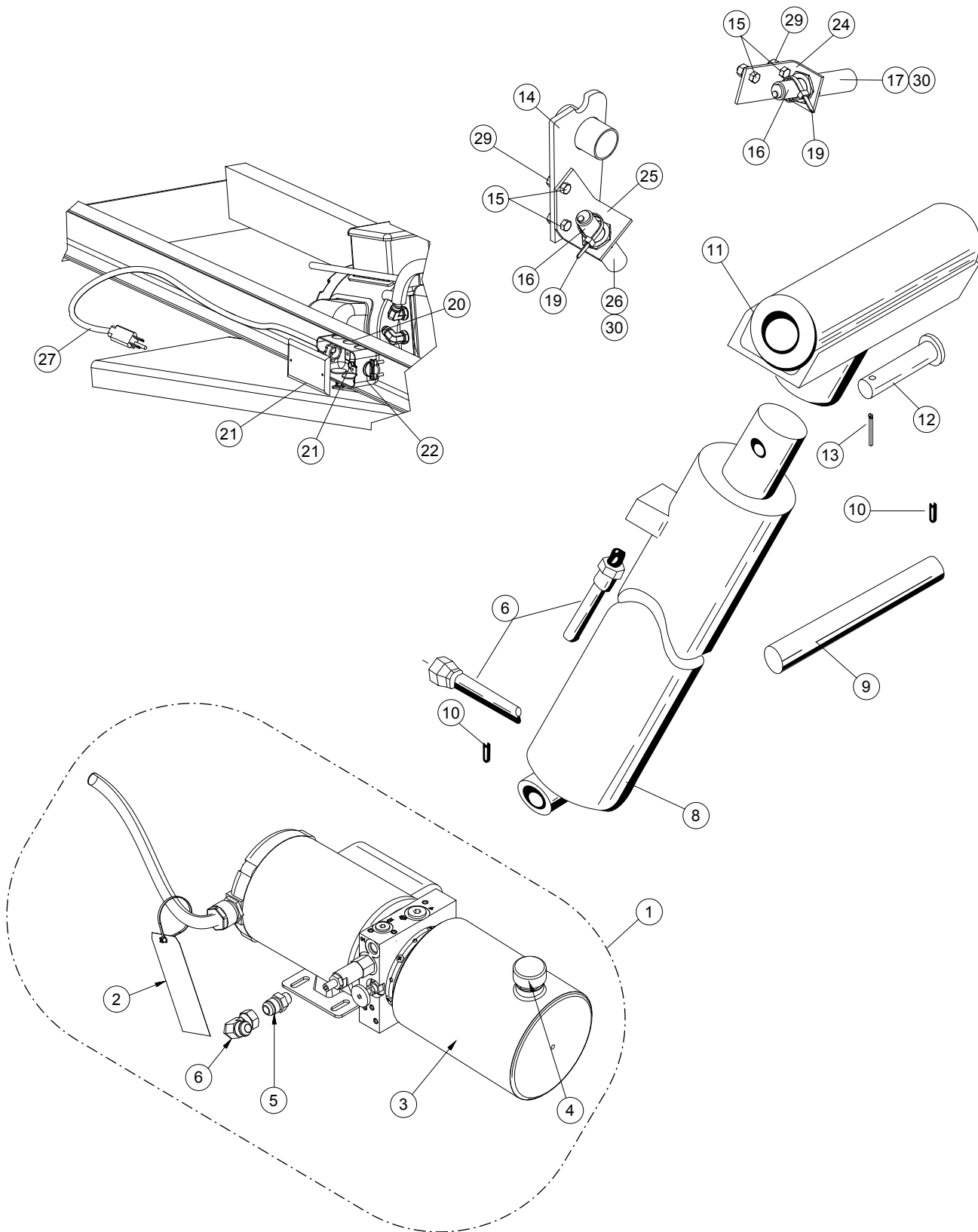
Optional Features

Item	Quantity	Description	Part Number
1	1	RISER KIT (FIELD INSTALLED)	6004654
2	4	REAR ANGLE CAP PLUGS (KELLEY) OPTIONAL	6004487

PARTS LIST, continued

HYDRAULIC COMPONENTS AND RETURN TO DOCK LEVEL SWITCH

Fig. 52



PARTS LIST, continued

HYDRAULIC COMPONENTS AND RETURN TO DOCK LEVEL SWITCH

Item	Quantity	Description	Part Number
1	1	MOTOR/PUMP UNIT (INCLUDES. ITEMS 2-6) 24V 100-120V, 1 PH, 50/ 60 HZ 200-240V, 1 PH, 50/60 HZ 190-240V, 3 PH, 50/60 HZ 380-480V, 3 PH, 50/60 HZ 575V, 3PH, 60 HZ	6010691 6011441 6011442 6011443 6011444 6011445
2	1	LABEL, CAUTION 24V 100-120V, 1 PH, 50/60 HZ 200-240V, 1 PH, 50/60 HZ 190-240V, 3 PH, 50/60 HZ 380-480V, 3 PH, 50/60 HZ	6010601 155-988 155-989 156-059 156-060
3	1	RESERVOIR	6010963
4	1	FILLER CAP, BREATHER	6010962
5	1	FTG. JIC-8 MALE TO MALE - 6 O-RING	6006640
6	2	FTG 90° SWIVEL NUT ELBOW - 8 JIC	6011446
7	1	HOSE, HYDRAULIC (MTR/PUMP TO RAMP CYLINDER 42" LG.)	708-939
8		CYLINDER, RAMP 6' LG. 8' LG. 10' LG.	713-250 713-296 713-373
9	1	PIN, CYLINDER	709-409
10	2	PIN, ROLL	035-096
11	1	CLEVIS, CYLINDER	712-376
12	1	PIN, CLEVIS	035-039
13	1	PIN, COTTER	035-036

*Items 14 through 31 used with optional A.R.T.D. only

PARTS LIST, continued

HYDRAULIC COMPONENTS AND RETURN TO DOCK LEVEL SWITCH

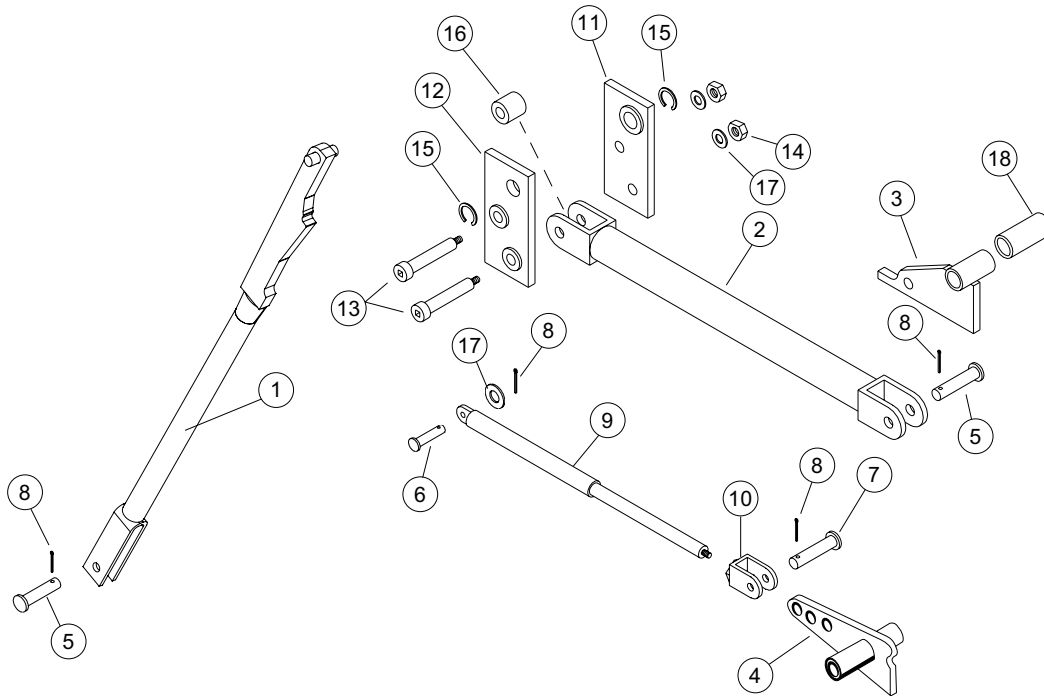
Item	Quantity	Description	Part Number
*14	1	CAM ASSEMBLY - ARTD	713-307
*15	4	HN-ANSI B18.2.2 - 1/4 - 20	214-161
*16	2	AC INDUCT PROX SWITCH, N/O, 18 MM	625-040
*17	1	CAP, ARTD	6008289
*18	2	WIRE STRAIN RELIEF	521-110
*19	4	CABLE TIE, NYLON - 8 1/4"	131-475
*20	1	2" X 4" JUNCTION BOX	6008982
*21	1	2" X 4" J BOX COVER	6008987
*22	2	TEK #12-14 X 3/4" UNC SELF TAPPING SCREW	215-702
*23	2	ZIP TIE PANDUIT ANCHORS (NOT SHOWN)	131-476
*24	1	ARTD ON DECK BRACKET	6008286
*25	1	ARTD ON LIP BRACKET	6008288
*26	1	CAP, LIP SWITCH	6000721
*27	1	CORD - MOLDED PLUG	712-027
*28	3	WIRE NUT (NOT SHOWN)	161-011
*29	4	LW 1/4 MED ZINC PLD BULK	234-281
*30	2	BALL - SWITCH	416-115
31	1	ARTD PROXIMITY SWITCH ASSEMBLY (INCLUDES ITEMS 21-37)	6009078

*Items 14 through 31 used with optional A.R.T.D. only

PARTS LIST, continued

CONNECTING ROD, PUSH BAR AND LIP ASSIST ASSEMBLIES

Fig. 53

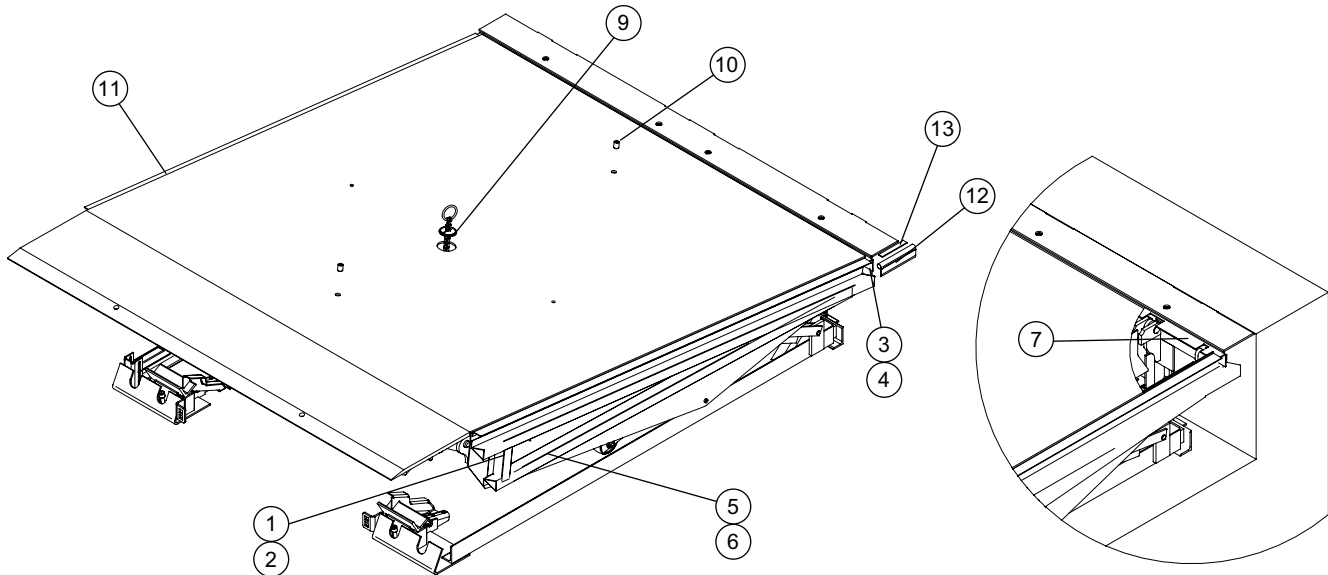


Item	Quantity	Description	Part Number
1	1	PUSH BAR	6011490
2	1	ROD, CONNECTING - 6' LG. DOCK LEVELER	711-848
		ROD, CONNECTING - 8' LG. DOCK LEVELER	711-849
		ROD, CONNECTING - 10' LG. DOCK LEVELER	712-462
3	1	LEVER, LIP LIFTER - 6' LG. DOCK LEVELER	711-998
		LEVER, LIP LIFTER - 8' AND 10' LG. DOCK LEVELER	711-999
4	1	LEVER, LIP ASSIST	155-811
5	2	PIN, CLEVIS 1/2" DIA. X 1-3/4"	035-010
6	1	PIN, CLEVIS 3/8" DIA. X 2"	035-150
7	1	PIN, CLEVIS 1/2" DIA. X 1-1/4"	035-049
8	4	PIN, COTTER 1/8" DIA. X 1-1/4"	035-036
9	1	GAS SPRING	709-437
10	1	CLEVIS, GAS SPRING	712-271
11	1	LINK, RH	712-001
12	1	LINK, LH	712-002
13	2	BOLT, SOC. HD. SHLD.	712-061
14	2	NUT, HEX 3/8-16	000-030
15	2	KLIPRING 5/8"	049-060
16	1	ROLLER	700-045
17	3	WASHER, 3/8"	000-214
18	1	SPACER, LIP - 6-1/2' WIDE DOCK LEVELER	287-606
		SPACER, LIP - 7' WIDE DOCK LEVELER	287-607
19	1	KIT, HANGER BRACKET FOR DECK	184-397

PARTS LIST, continued

OPTIONAL ENERGY GUARD® DOCK LEVELLER SEALING SYSTEM

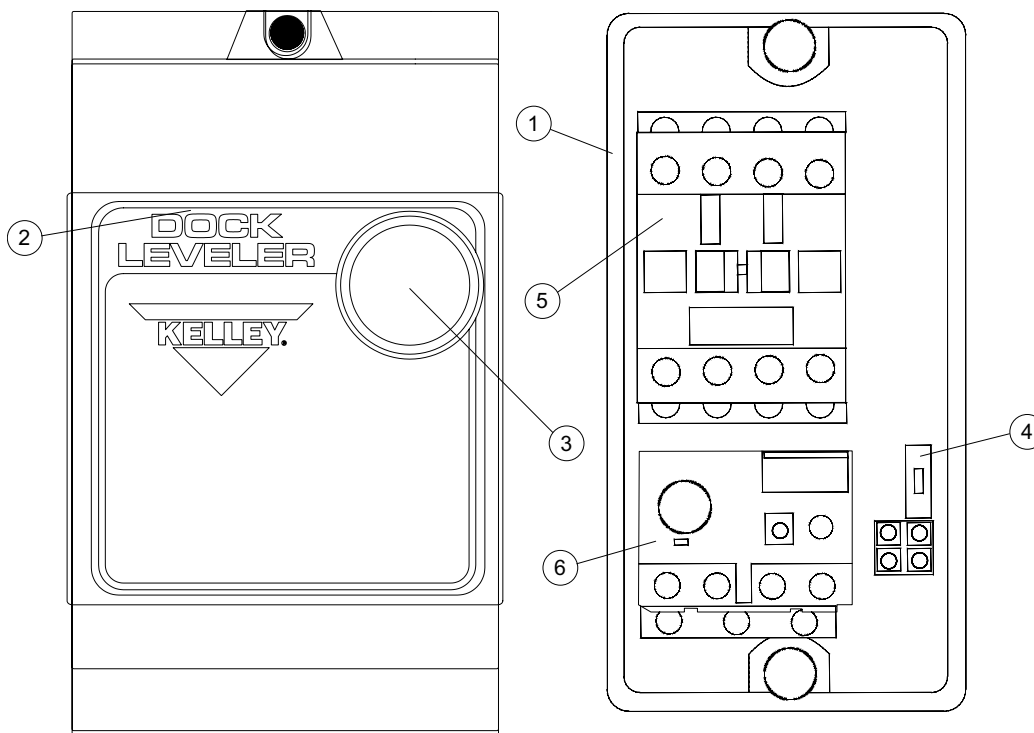
Fig. 54



Item	Description	Quantity									Part Number
		6x6 6008228	6.5x6 6008229	6x7 6008230	6x8 6008231	6.5x8 6008232	7x8 6008233	6x10 6008234	6.5x10 6008235	7x10 6008236	
1	5-1/2" front seal	2	2	2	2	2	2	2	2	2	6008166
2	Vertical seal	2	2	2	2	2	2	2	2	2	6008173
3	6' upper seal 8' upper seal 10' upper seal	2	2	2	2	2	2	2	2	2	6008167 6008169 6008171
4	Aluminum strip 53-1/2" Aluminum strip 77-1/2" Aluminum strip 101-1/2"	2	2	2	2	2	2	2	2	2	6008175 6008177 6008179
5	6' Lower seal 8' Lower seal 10' Lower seal.	2	2	2	2	2	2	2	2	2	6008168 6008170 6008172
6	Aluminum strip 6' upper Aluminum strip 8' upper Aluminum strip 10' upper	2	2	2	2	2	2	2	2	2	6008174 6008176 6008178
7	6' Kelley rear seal 6.5' Kelley rear seal 7' Kelley rear seal	1	1	1	1	1	1	1	1	1	6007671 6007672 6007673
8	TEK screws (not shown)	26	26	26	26	26	26	28	28	28	215702
9	Chain cup seal	2	2	2	2	2	2	2	2	2	0392
10	3/4-10 Set screw	2	2	2	2	2	2	2	2	2	6008249
11	W/seal 600 W brush W/seal 800 W brush W/seal 600 W brush cut	2	2	2	2	2	2	2	2	2	328907 328908 328910
12	Corner bulb seal	2	2	2	2	2	2	2	2	2	6009507
13	Transition angle seal (optional)	2	2	2	2	2	2	2	2	2	6008247

PARTS LIST, continued
CONTROL BOX ASSEMBLY — STANDARD
6006461 — 120V, 1 PH, 50/60 HZ
6006462 — 208-240V, 1 PH, 60 HZ

Fig. 55

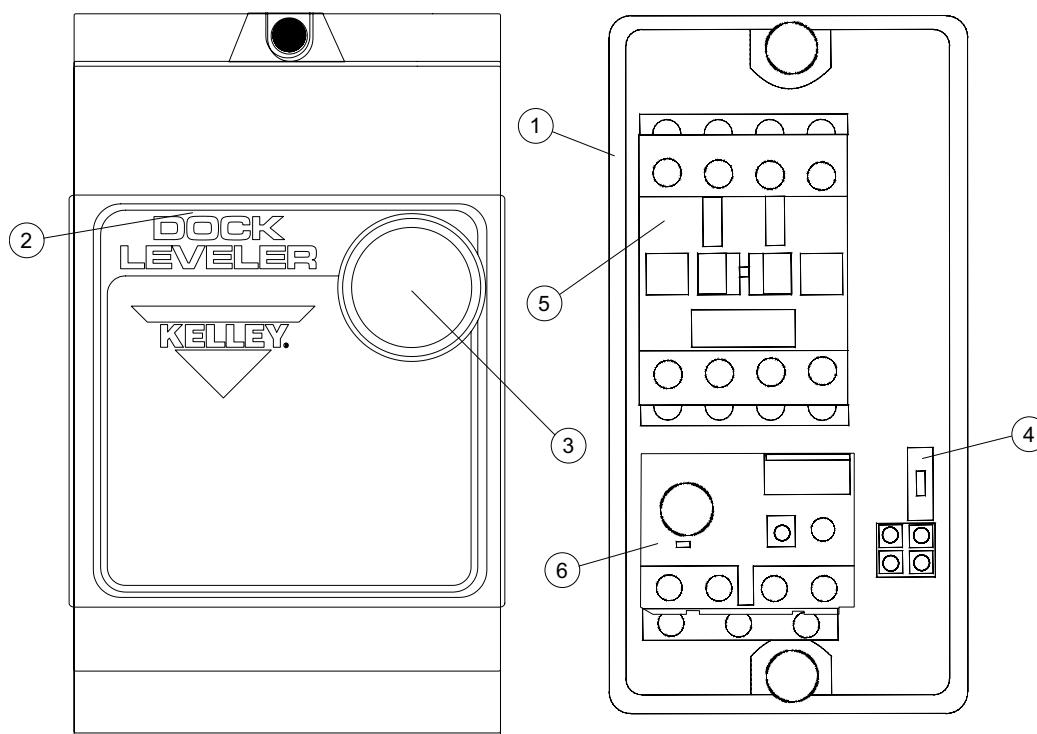


Item	Quantity	Description	Part Number
—	1	CONTROL BOX ASSEMBLY (INCLUDES ITEMS 1-6) 120V, 1 PH, 50/60 HZ 208-230V, 1 PH, 60 HZ	6006461 6006462
1	1	PLASTIC CONTROL PANEL ENCLOSURE	6006437
2	1	CONTROL PANEL LABEL	6006453
3	1	PUSHBUTTON — GREEN WITH LINE	6006439
4	1	CONTACT ASSEMBLY, PLASTIC PANEL	6006438
5	1	CONTACTOR — 120V CONTACTOR — 208-230V	6006427 6006428
6	1	OVERLOAD RELAY 12-18A — 120V OVERLOAD RELAY 5.5-8A — 208-230V	6006435 6006434
7	1	PRINT, WIRING SCHEMATIC — 120V PRINT, WIRING SCHEMATIC — 208-230V	6006461S 6006462S

PARTS LIST, continued

CONTROL BOX ASSEMBLY — STANDARD
6006450 — 208-240V, 3PH, 60 HZ
6006451 — 460-480V, 3PH, 60 HZ
6006452 — 575V, 3PH, 60 HZ

Fig. 56



PARTS LIST, continued
CONTROL BOX ASSEMBLY — STANDARD
6006450 — 208-240V, 3PH, 60 HZ
6006451 — 460-480V, 3PH, 60 HZ
6006452 — 575V, 3PH, 60 HZ

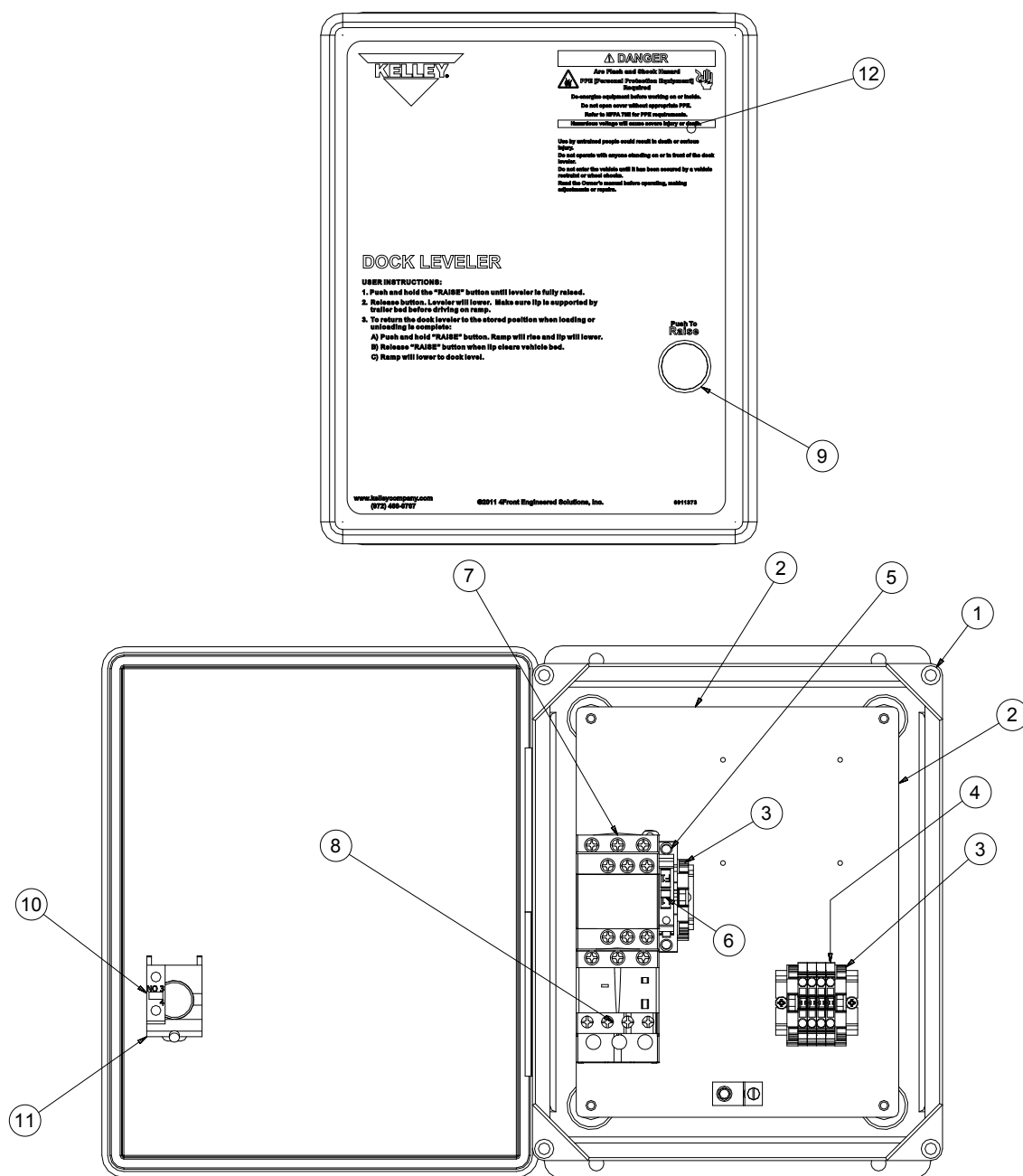
Item	Quantity	Description	Part Number
—	1	CONTROL BOX ASSEMBLY (INCLUDES ITEMS 1-6) 208-230V, 3 PH, 50/60 HZ 460-480V, 3 PH, 50/60 HZ 575V, 3 PH, 60 HZ	6006450 6006451 6006452
1	1	PLASTIC CONTROL PANEL ENCLOSURE	6006437
2	1	CONTROL PANEL LABEL	6006453
3	1	PUSHBUTTON — GREEN WITH LINE	6006439
4	1	CONTACT ASSEMBLY, PLASTIC PANEL	6006438
5	1	CONTACTOR — 208-230V CONTACTOR — 480V CONTACTOR — 600V	6006428 6006430 6006431
6	1	OVERLOAD RELAY 2.5-4A — 208-230V OVERLOAD RELAY 1.6-2.5A — 460-480V, 575V	6006433 6006432
7	1	PRINT, WIRING SCHEMATIC — 208-230V PRINT, WIRING SCHEMATIC — 460-480V PRINT, WIRING SCHEMATIC — 575V	6006450S 6006451S 6006452S

PARTS LIST, continued

CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK

6011372 — 120V, 1PH, 60 HZ

Fig. 57



PARTS LIST, continued
CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK
6011372 — 120V, 1PH, 60 HZ

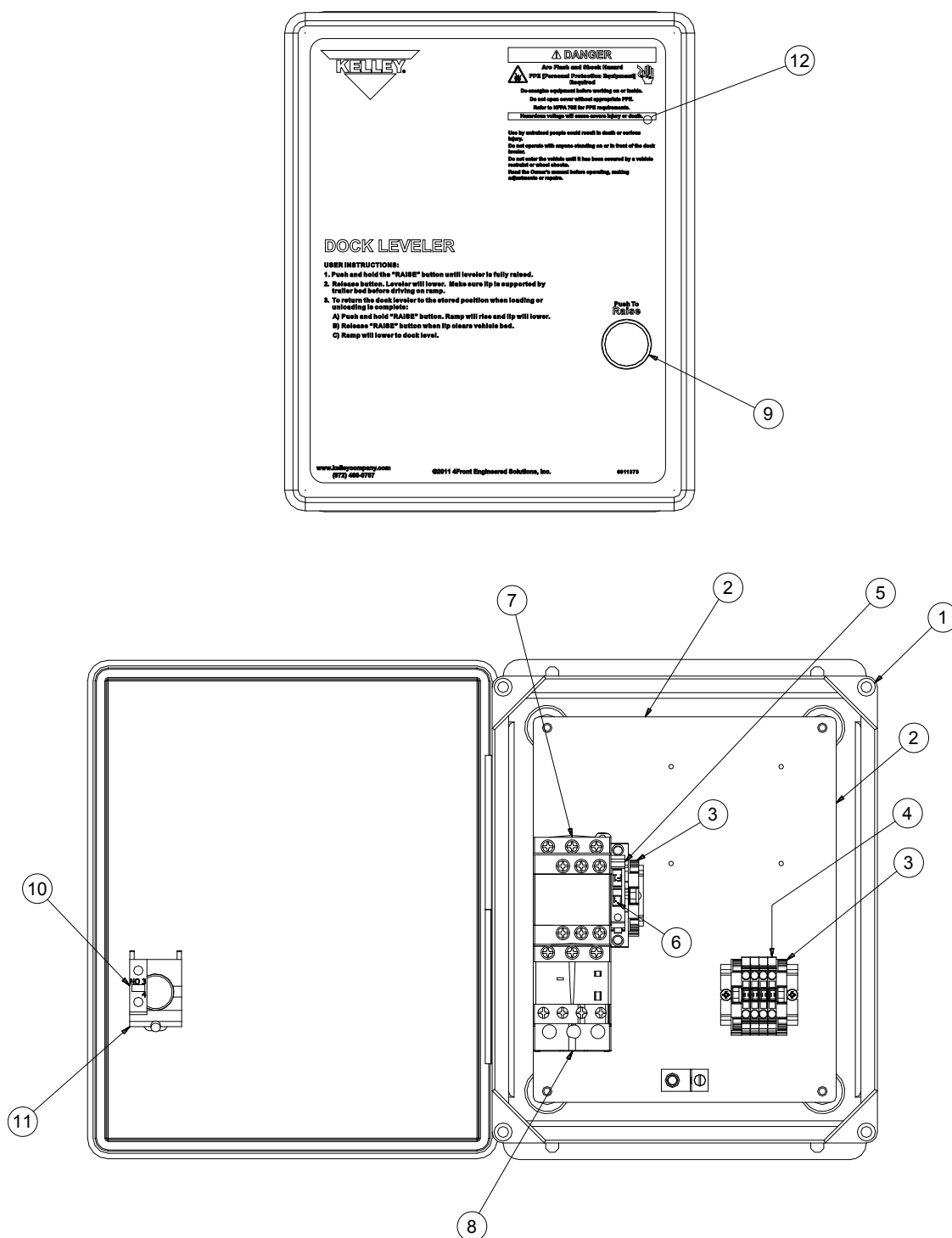
Item	Quantity	Description	Part Number
1	1	ENCLOSURE, 10X8X5 NEMA4	6011018
2	1	HP/HK MOUNTING PLATE	6011019
3	3	TERMINAL, END STOP, SCREWLESS	6000549
4	4	TERMINAL, 2 CONDUCTOR	6000542
5	1	FUSED DISCONNECT TERMINAL BLOCK, 1/4" X 1 1/4"	6000538
6	1	FUSE, 0.5A TIME DELAY, BUSSMAN, MDL 1/2A	6008836
7	1	CONTACTOR 18A 1NO+NC 120V	6000469
8	1	OVERLOAD 9-13 AMPS	6000477
9	1	PUSH BUTTON	6000506
10	1	CONTACT BLOCK - N/O CONTACT	632228
11	1	BODY, MOUNTING COLLAR	6000515
12	1	DECAL, KELLEY HP-HK	6011373
13	1	SCHEMATIC, HP/HK, 1PB, 1PH, 120V	6011372S

PARTS LIST, continued

CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK

6011524 — 208/240V, 1PH, 60 HZ

Fig. 58



PARTS LIST, continued
CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK
6011524 — 208/240V, 1PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	ENCLOSURE, 10X8X5 NEMA4	6011018
2	1	HP/HK MOUNTING PLATE	6011019
3	3	TERMINAL, END STOP, SCREWLESS	6000549
4	4	TERMINAL, 2 CONDUCTOR	6000542
5	2	FUSED DISCONNECT TERMINAL BLOCK, 1/4" X 1 1/4"	6000538
6	2	FUSE, 0.5A TIME DELAY, BUSSMAN, MDL 1/2A	6008836
7	1	CONTACTOR 9A 1NO + 1NC 240V	6006834
8	1	OVERLOAD 5.5 - 8 AMPS	6000476
9	1	PUSH BUTTON	6000506
10	1	CONTACT BLOCK - N/O CONTACT	632228
11	1	BODY, MOUNTING COLLAR	6000515
12	1	DECAL, KELLEY HP-HK	6011373
13	1	SCHEMATIC, HP/HK, 1PB, 1PH, 208/240V	6011524S

PARTS LIST, continued

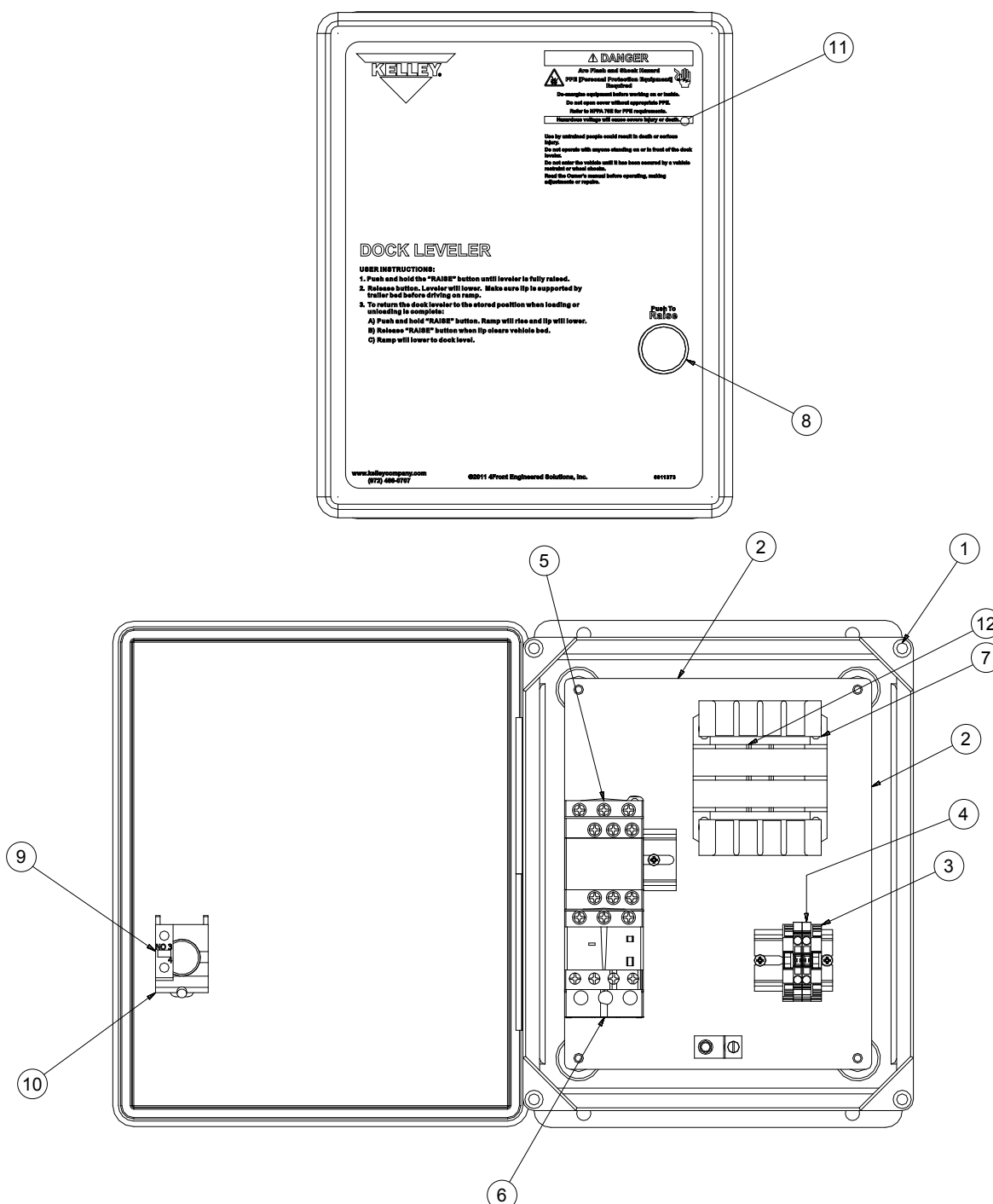
CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK

6011325 — 208V, 3PH, 60 HZ

6011761 — 240V, 3PH, 60 HZ

6011326 — 460-480V, 3PH, 60 HZ

Fig. 60



PARTS LIST, continued
CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK
6011325 — 208V, 3PH, 60 HZ
6011761 — 240V, 3PH, 60 HZ
6011326 — 460-480V, 3PH, 60 HZ

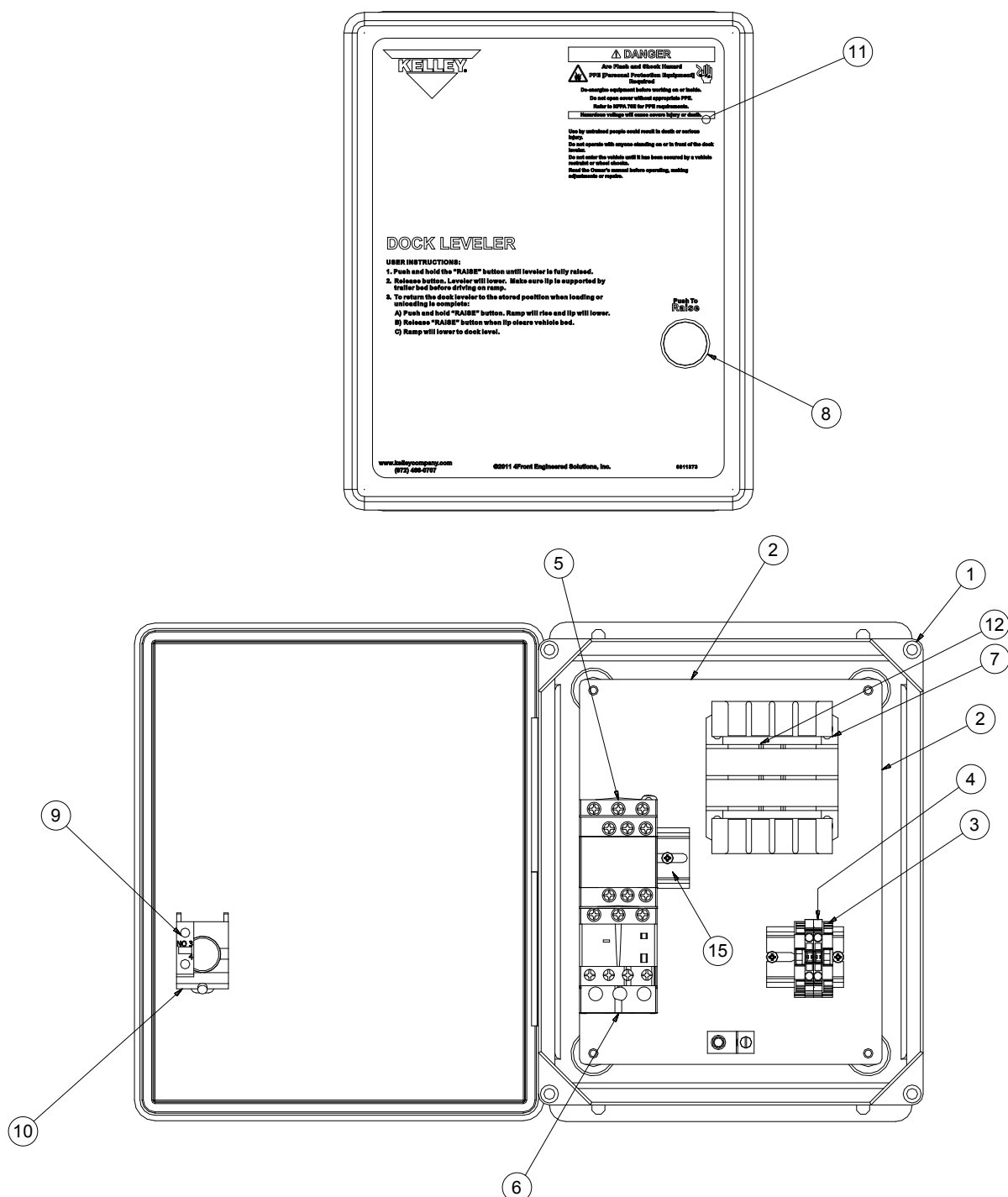
Item	Quantity	Description	Part Number
1	1	ENCLOSURE, 10X8X5 NEMA4	6011018
2	1	HP/HK MOUNTING PLATE	6011019
3	2	TERMINAL, END STOP, SCREWLESS	6000549
4	2	TERMINAL, 2 CONDUCTOR	6000542
5	1	CONTACTOR 18A 1NO + 1NC 24V	6000467
6	1	OVERLOAD 2.5 - 4 AMPS — 208-240V OVERLOAD 1.6 - 2.5 AMPS — 460-480V	6000474 6000473
7	1	XFMR, 200/480-23/110, 50VA	6011359
8	1	PUSH BUTTON	6000506
9	1	CONTACT BLOCK - N/O CONTACT	632228
10	1	BODY, MOUNTING COLLAR	6000515
11	1	DECAL, KELLEY HP-HK	6011373
12	2	FUSE, ATQR 1/2A, 600V, CC, FERRAZ SHAWMUT	6011358
13	1	SCHEMATIC, HP/HK, 1PB, 1PH, 208V SCHEMATIC, HP/HK, 1PB, 1PH, 240V SCHEMATIC, HP/HK, 1PB, 1PH, 480V	6011325S 6011761S 6011326S

PARTS LIST, continued

CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK

6011651 — 575V, 3PH, 60 HZ

Fig. 61



PARTS LIST, continued
CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK
6011651 — 575V, 3PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	ENCLOSURE, 10X8X5 NEMA4	6011018
2	1	HP/HK MOUNTING PLATE	6011019
3	2	TERMINAL, END STOP, SCREWLESS	6000549
4	2	TERMINAL, 2 CONDUCTOR	6000542
5	1	CONTACTOR 18A 1NO + 1NC 24V	6000467
6	1	OVERLOAD 1.6 - 2.5 AMPS — 575V	6000473
7	1	XFMR, 550/600-24, 50VA	6011649
8	1	PUSH BUTTON	6000506
9	1	CONTACT BLOCK - N/O CONTACT	632228
10	1	BODY, MOUNTING COLLAR	6000515
11	1	DECAL, KELLEY HP-HK	6011373
12	2	FUSE, ATQR 1/4, 600V, CC, FERRAZ SHAWMUT	6011974
13	1	PRINT, WIRING SCHEMATIC — 575V	6011651S

6011323 — 120V, 1PH, 60 HZ

KELLEY

HYDRAULIC DOCK LEVELER

USER INSTRUCTIONS:

- Turn the "ON/OFF" switch to the "ON" position.
- Push and hold the "RAISE" button until leveler is fully raised.
- Release button. Leveler will lower. Make sure lip is supported by trailer bed before driving on ramp.
- To return the dock leveler to the stored position when loading or unloading is complete:
 - Push and hold "RAISE" button. Ramp will rise and lip will lower.
 - Release "RAISE" button when lip clears vehicle bed. (Before reaching its highest position)
 - Ramp will lower to dock level (stored) position.
 - Visually check that the lip is not extended and the ramp is supported by each dock level support before driving or walking on the ramp. Ramp should be level with dock floor.
 - Turn the "ON/OFF" switch to the "OFF" position.
- For below dock and loads:
 - Turn the "ON/OFF" switch to the "ON" position.
 - Press "RAISE" button and hold until the ramp is 8" to 12" above dock level. Release the button before the ramp reaches its highest position.
 - Press "ON/OFF" switch to the "OFF" position as the ramp begins to lower.
 - As ramp is lowering, walk onto the ramp and pull the chain located in cup on ramp until it is fully extended. Hold the chain until the ramp passes below the dock level.
 - To return ramp to dock level, turn "ON/OFF" switch to "ON" position. Ramp will automatically return to the stored position.
 - Repeat steps 4D and 4E above.

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001274B

13

9

10

7

2

5

1

2

4

3

6

8

NO. 3

Push To Raise

Off On

PARTS LIST, continued

CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK AND AUTO-RETURN TO DOCK
6011323 — 120V, 1PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	ENCLOSURE, 10X8X5 NEMA4	6011018
2	1	HP/HK MOUNTING PLATE	6011019
3	3	TERMINAL, END STOP, SCREWLESS	6000549
4	6	TERMINAL, 2 CONDUCTOR	6000542
5	1	FUSED DISCONNECT TERMINAL BLOCK, 1/4" X 1 1/4"	6000538
6	1	FUSE, 0.5A TIME DELAY, BUSSMAN, MD2 1/2A	6008836
7	1	CONTACTOR 18A 1NO+NC 120V	6000469
8	1	OVERLOAD 9-13 AMPS	6000477
9	1	PUSH BUTTON	6000506
10	1	SELECTOR SW, MAINTAINED, 2 POS, NEMA 4/4X/13	632217
11	2	CONTACT BLOCK - N/O CONTACT	632228
12	2	BODY, MOUNTING COLLAR	6000515
13	1	DECAL, KELLEY HP-HK	6011374
14	1	SCHEMATIC, HP/HK, 2PB, 1PH, 120V	6011323S

6011324 — 208/240V, 1PH, 60 HZ

KELLEY

HYDRAULIC DOCK LEVELER

USER INSTRUCTIONS:

1. Turn the "ON/OFF" switch to the "ON" position.
2. Push and hold the "RAISE" button until forklift is fully raised.
3. Release button. Leveler will lower. Make sure lip is supported by trailer bed before driving on ramp.
4. To return the dock leveler to the stored position when loading or unloading is complete:
 - A) Push and hold "RAISE" button. Ramp will rise and lip will lower.
 - B) Release "RAISE" button when lip clears vehicle bed. (Before reaching its highest position)
 - C) Ramp will lower to dock level (stored) position.
 - D) Visually check that the lip is not extended and the ramp is supported by both dock level supports before driving or waiting on the ramp. Ramp should be level with dock floor.
 - E) Turn the "ON/OFF" switch to the "OFF" position.
5. For below dock and load:
 - A) Turn the "ON/OFF" switch to the "ON" position.
 - B) Press "RAISE" button and hold until the ramp is 8" to 12" above dock level. Release the button before the ramp reaches its highest position.
 - C) Turn "ON/OFF" switch to the "OFF" position as the ramp begins to lower.
 - D) As ramp is lowering, walk onto the ramp and pull the chain located in cup on ramp until it is fully extended. Hold the chain until the ramp passes below the dock level.
 - E) To return ramp to dock level, turn "ON/OFF" switch to "ON" position. Ramp will automatically return to the stored position.
 - F) Repeat steps 4D and 4E above.

⚠ DANGER
 Air, Fluid and Electric Hazard
 PPE (Personal Protection Equipment) Required
 Do not attempt equipment before reading on or inside.
 Do not open cover without appropriate PPE.
 Release to 100% VSE for PPE requirements.
 Minimum voltage will cause severe injury or death.

Use by untrained people could result in death or serious injury.
 Do not operate with anyone standing on or in front of the dock leveler.
 Do not enter the vehicle until it has been secured by a vehicle restraint or other device.
 Read the Owner's manual before operating, making adjustments or repairs.
 With the selector switch in the "ON" position, the dock leveler will automatically return to dock level when the dock is lowered and the lip retracts.

Push To RAISE

OFF ON

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Diagram labels: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13

PARTS LIST, continued

CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK AND AUTO-RETURN TO DOCK
6011324 — 208/240V, 1PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	ENCLOSURE, 10X8X5 NEMA4	6011018
2	1	HP/HK MOUNTING PLATE	6011019
3	3	TERMINAL, END STOP, SCREWLESS	6000549
4	7	TERMINAL, 2 CONDUCTOR	6000542
5	1	FUSED DISCONNECT TERMINAL BLOCK, 1/4" X 1 1/4"	6000538
6	1	FUSE, MDL 1/2A, BUSSMAN	6008836
7	1	CONTACTOR 18A 1NO + 1NC 120V	6000469
8	1	OVERLOAD 5.5 - 8 AMPS	6000476
9	1	PUSH BUTTON	6000506
10	1	SELECTOR SW, MAINTAINED, 2 POS, NEMA 4/4X/13	632217
11	2	CONTACT BLOCK - N/O CONTACT	632228
12	2	BODY, MOUNTING COLLAR	6000515
13	1	DECAL, KELLEY HP-HK	6011374
14	1	SCHEMATIC, HP/HK, 2PB, 1PH, 208/240V	6011324S

PARTS LIST, continued

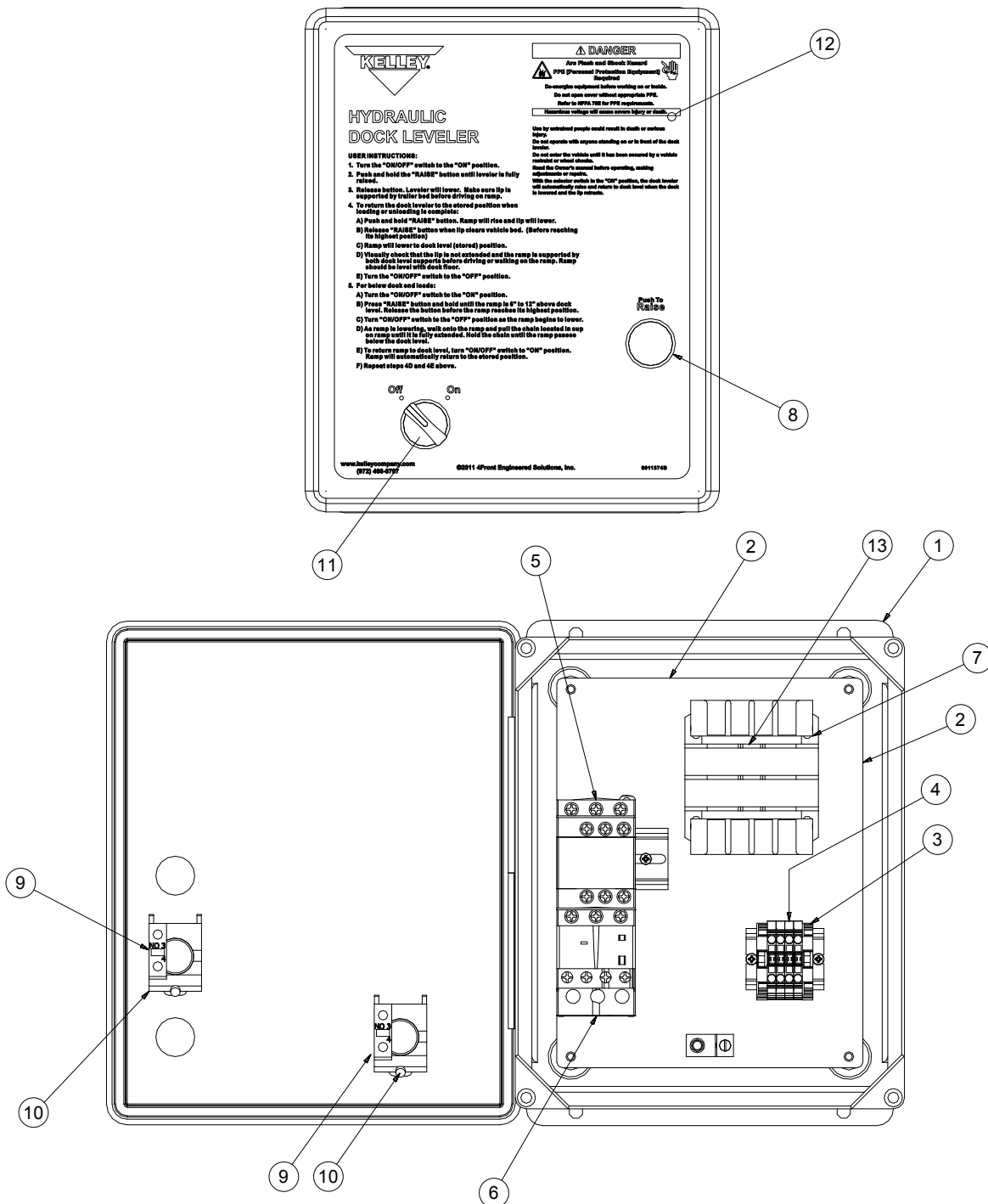
CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK AND AUTO-RETURN TO DOCK

6011327 — 208V, 3PH, 60 HZ

6011762 — 240V, 3PH, 60 HZ

6011328 — 460-480V, 3PH, 60 HZ

Fig. 64



PARTS LIST, continued

CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK AND AUTO-RETURN TO DOCK

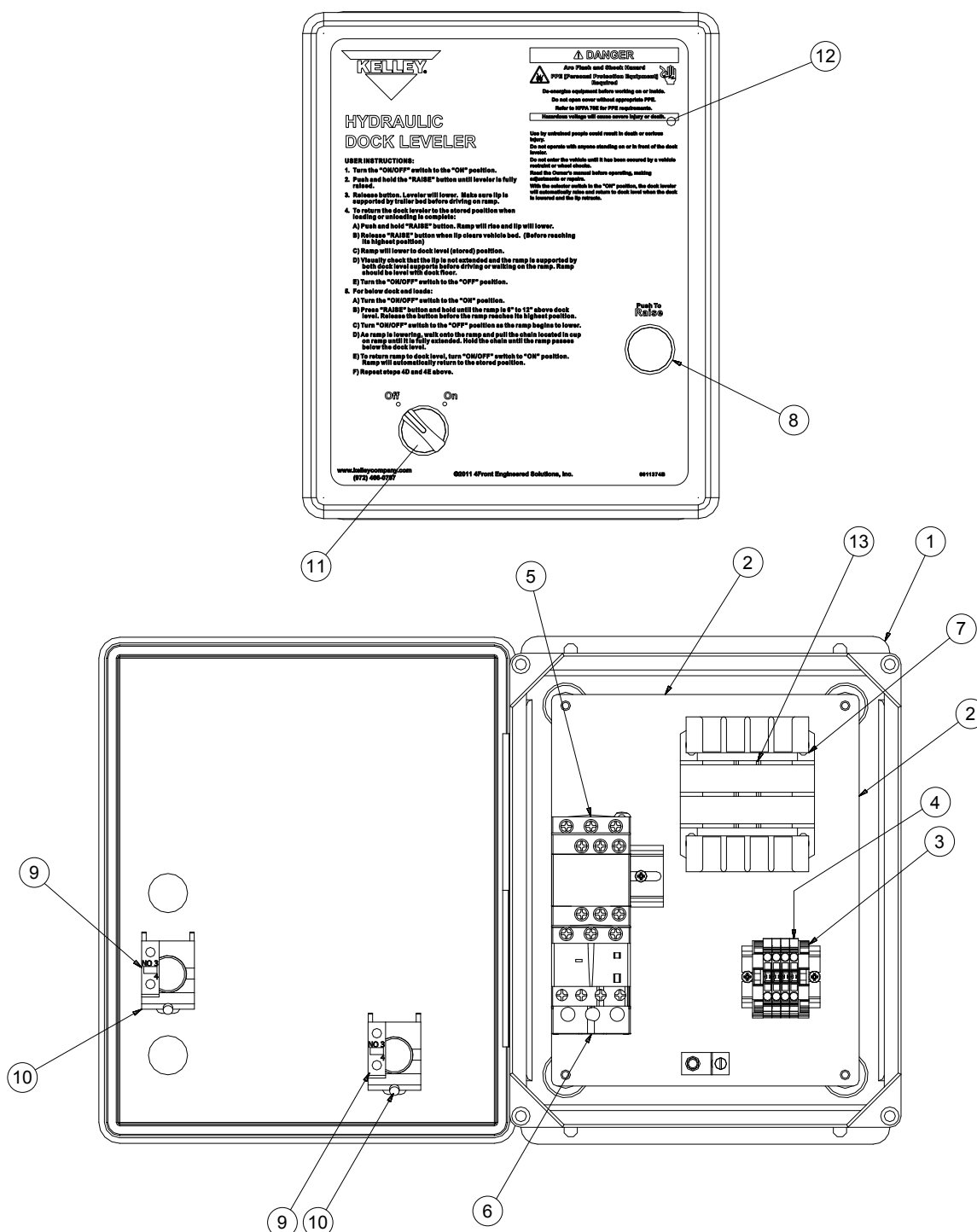
6011327 — 208V, 3PH, 60 HZ
6011762 — 240V, 3PH, 60 HZ
6011328 — 460-480V, 3PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	ENCLOSURE, 10X8X5 NEMA4	6011018
2	1	HP/HK MOUNTING PLATE	6011019
3	2	TERMINAL, END STOP, SCREWLESS	6000549
4	4	TERMINAL, 2 CONDUCTOR	6000542
5	1	CONTACTOR 18A 1NO + 1NC 24V	6000467
6	1	OVERLOAD 2.5 - 4 AMPS — 208-240V OVERLOAD 1.6 - 2.5 AMPS — 460-480V	6000474 6000473
7	1	XFMR,200/480-23/110,50VA	6011359
8	1	PUSH BUTTON	6000506
9	2	CONTACT BLOCK - N/O CONTACT	632228
10	2	BODY, MOUNTING COLLAR	6000515
11	1	SELECTOR SW, MAINTAINED, 2 POS, NEMA 4/4X/13	632217
12	1	DECAL, KELLEY HP-HK	6011374
13	2	FUSE, ATQR 1/2, 600V, CC, FERRAZ SHAWMUT	6011358
14	1	SCHEMATIC, HP/HK, 2PB, 3PH, 208V SCHEMATIC, HP/HK, 2PB, 3PH, 240V SCHEMATIC, HP/HK, 2PB, 3PH, 480V	6011327S 6011762S 6011328S

PARTS LIST, continued

CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK AND AUTO-RETURN TO DOCK
6011652 — 575V, 3PH, 60 HZ

Fig. 65



PARTS LIST, continued

CONTROL BOX ASSEMBLY WITH OPTIONAL INTERLOCK AND AUTO-RETURN TO DOCK
6011652 — 575V, 3PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	ENCLOSURE, 10X8X5 NEMA4	6011018
2	1	HP/HK MOUNTING PLATE	6011019
3	2	TERMINAL, END STOP, SCREWLESS	6000549
4	4	TERMINAL, 2 CONDUCTOR	6000542
5	1	CONTACTOR 18A 1NO + 1NC 24V	6000467
6	1	OVERLOAD 1.6 - 2.5 AMPS	6000473
7	1	XFMR, 550/600-24, 50VA	6011649
8	1	PUSH BUTTON	6000506
9	2	CONTACT BLOCK - N/O CONTACT	632228
10	2	BODY, MOUNTING COLLAR	6000515
11	1	SELECTOR SW, MAINTAINED, 2 POS, NEMA 4/4X/13	632217
12	1	DECAL, KELLEY HP-HK	6011374
13	2	FUSE, ATQR 1/4, 600V, CC, FERRAZ SHAWMUT	6011974
14	1	SCHEMATIC, HP/HK, 2PB, 3PH, 575V	6011652S

NOTE:

For 24V incoming power consult factory.

This image shows a full page of blank white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for writing or drawing. There are no margins, text, or other markings present.

LIMITED WARRANTY

THIS LIMITED WARRANTY IS KELLEY'S SOLE AND EXCLUSIVE WARRANTY WITH RESPECT TO THE DOCK LEVELER AND IS IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED

KELLEY warrants that this DOCK LEVELER will be free from flaws in material and workmanship under normal use for a period of one (1) year from the earlier of 1) 60 days after the date of initial shipment by KELLEY, or 2) the date of installation of the DOCK LEVELER by the original purchaser, provided that the owner maintains and operates the DOCK LEVELER in accordance with this Owner's Manual.

KELLEY expressly warrants that the BAG, MOTOR, GASKETS, FITTINGS and SEALS will be free from flaws in material and workmanship under normal use for a period of five (5) years from the earlier of 1) 60 days after date of shipment, or 2) the date of installation of the DOCK LEVELER by the original purchaser, provided the purchaser maintains and operates the DOCK LEVELER in accordance with the Owner's Manual.

In the event that this DOCK LEVELER proves deficient in material or workmanship within the applicable Limited Warranty period, owner shall so notify KELLEY, and 4 Front will, at its option:

1. Replace the DOCK LEVELER, or the deficient portion(s) thereof, without charge to the owner; or
2. Alter or repair the DOCK LEVELER, on site or elsewhere, without charge to the owner.

This Limited Warranty does not cover any failure caused by improper installation, abuse, improper operation, negligence, or failure to maintain and adjust the DOCK LEVELER properly. Parts requiring replacement due to damage resulting from vehicle impact, abuse, or improper operation are not covered by this warranty. KELLEY DISCLAIMS ANY RESPONSIBILITY OR LIABILITY FOR ANY LOSS OR DAMAGE OF ANY KIND (INCLUDING WITHOUT LIMITATION, DIRECT, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES, OR LOST PROFITS OR LOST PRODUCTION) arising out of or related to the use, installation or maintenance of the DOCK LEVELER (including premature product wear, product failure, property damage or bodily injury resulting from use of unauthorized replacement parts or modification of the DOCK LEVELER). KELLEY's sole obligation with regard to a DOCK LEVELER that is claimed to be deficient in material or workmanship shall be as set forth in this Limited Warranty. This Limited Warranty will be null and void if the original purchaser does not notify KELLEY's warranty department within ninety (90) days after the product deficiency is discovered. .

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, INCLUDING, BUT NOT LIMITED TO, A WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH KELLEY HEREBY DISCLAIMS.

Please direct questions about your dock leveler to your local distributor or to 4Front Engineered Solutions, Inc.

Your local Kelley® distributor is:

Corporate Head Office:

1612 Hutton Dr. Suite 140
Carrollton, TX. 75006
Tel. (972) 466-0707
Fax (972) 323-2661